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The Politics Of Atheism In The West

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THE POLITICS OF ATHEISM IN THE WEST

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ABSTRACT

Though the term "atheism" encompasses all persons without belief in god(s), more people claim unbelief in god(s) than describe themselves as "convinced atheists" in every society on earth. While the extant social science research on religion and secularism rigorously explores the nuances of the religion/nonreligion divide, the scholarship largely ignores the complexity of *irreligion*, or the rejection of all religious truth claims involving supernatural phenomena. In this dissertation, I argue that a cross-national, comparative analysis of nonbelievers and avowed atheists provides an ideal opportunity to gain leverage into the poorly understood political dynamics of irreligion, particularly in the context of Western secularization. By modeling atheism as both a worldview and a social identity, this inquiry seeks a balanced understanding of the characteristics and mechanisms of atheism's interaction with politics.

Politics and atheism are theorized to influence one another in a variety of ways, enumerated in a series of thirty-three formal hypotheses derived from the relevant literature. Following an introduction, Chapter 1 introduces atheism and lays a foundation for its sociopolitical investigation. The second chapter explores atheism as an outcome of various social, political, and economic factors. Two leading theories on religious change in society are contrasted and used to formulate falsifiable hypotheses, which are then formalized in a series of Bayesian hierarchical models and operationalized using data from thirty countries across nine waves of the combined World Values Survey and European Values Survey (1981-2009). Estimates are obtained using a Markov chain Monte Carlo simulation and are discussed in detail,

including a comparison of Bayesian estimates with those derived from a corresponding frequentist model.

Chapter 3 investigates the political behavior of various nonreligious groups in attempt to identify irreligion's political impacts. A close examination of political differences between avowed atheists, nonbelievers, and the nonreligious sheds light on the relative magnitudes of the political effects of various irreligion components. Methods comprise a series of Bayesian models mirroring those of the prior chapter which are operationalized using the same principle data series. A brief summary of the findings and closing thoughts about their place in the literature comprise the concluding fourth chapter.

DEDICATION

To Dr. Phil Zuckerman for his pioneering research on atheism and irreligion in the contemporary Western world.

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INTRODUCTION

There are more atheists on earth today than at any point in human history. Conservative estimates place the global population of nontheists (those lacking belief in god(s)) at somewhere between 500,000,000 and 750,000,000, trailing only Christianity, Islam, and Hinduism in numbers (Zuckerman 2007). Even the Evangelical authors of the *World Christian Encyclopedia* recognize the rapidity of atheism's proliferation across the globe, stating:

> "Two immense quasi-religious systems have emerged at the expense of the world's religions: agnosticism…and atheism…From a miniscule presence in 1900, a mere 0.2% of the globe, these systems…are today expanding at the *extraordinary* rate of 8.5 million new converts each year, and are likely to reach one billion adherents soon" (Barrett et al. 2001; quoted in: Paul and Zuckerman 2007)

The vast majority of atheism's expansion has occurred in advanced Western societies (Paul and Zuckerman 2007; Zuckerman 2007). No other religious group has witnessed such massive growth rates over the last century (ibid.). Given the well documented impact of religiosity in politics over the course of history, there is little doubt that these mass "deconversions" are already exerting sizeable impact upon the sociopolitical climate of the contemporary Western world. The mystery lies in the defining characteristics and magnitude of this impact.

Extant scholarship on the subject frequently uses three similar terms: secularity, secularism, and secularization. Although the concepts described by these words are interrelated, they each refer to a distinct phenomenon and should not be considered interchangeable.

Secularity simply refers to separateness from religion. When an individual believes that a social institution should operate independently from religious doctrines, practices, and hierarchies, s/he can be observed as supportive of that institution's secularity. Although conceptually straightforward, support for "separateness" occurs in numerous gradations across individuals and societies, as Phil Zuckerman notes, "[t]here are various shades and degrees of secularity, just as there are various shades and degrees of religiosity" (2008, 106). It is important to note that secularity is not merely the absence of religion, but rather a cultural, social, and political phenomenon that embodies a complex historical construction (Taylor 2007). Secularism describes the view that government institutions should be characterized by secularity, or a "separation of church and state." Secularization is a historical process that entails the transformation of a religious society to a nonreligious one, particularly in regards to values and sociopolitical institutions. Secularization can occur to various degrees across societies and at various rates across time. Contemporary scholars generally do not assume that secularization is inevitable or irreversible, noting that a number of social, economic, and political factors influence the secularization process (Bruce 2002; Demerath 2001; Zuckerman 2008; Norris and Inglehart 2004).

Although secularization does not necessarily imply a rise of atheism, it does encompass an increase of secularity in the public realm and a decline of religious observance in the private realm (Norris and Inglehart 2004). According to some, the concurrence of these trends serves to increase the nonreligious proportion of a population (e.g. ibid., Bruce 2002; Zuckerman 2012). Recent trends in the religious climates of many Western societies demonstrate evidence of secularization according to these criteria. In the United States, for instance, the percentage of adults claiming no religious affiliation rose from twelve to twenty-seven during the first decade

of the twenty first century (Becker 2011, 4). Recent figures suggest that only about 17% of Britons take religion seriously (Walsh 2010, 332), while those who believe in one or more god(s) comprise minority populations in France, Germany, Belgium, and across Scandinavia (Hunsberger and Altemeyer 2006; Zuckerman 2010; WVS 2009).

A broader overview of secularization trends across the thirty Western countries analyzed in this research design is illustrated in the Venn diagram of Figure 0.1. Values in this diagram are derived from all available country years in the seven most recent waves of the World Values Survey and European Values Survey, dating from 1990 to 2009 (WVS/EVS 2009). The survey item used to generate these values asks respondents whether they consider themselves to be religious persons, nonreligious persons, or "convinced atheists" (ibid.). Gender weighted country-level means for the 1990s are contrasted with those from the 2000s to identify changes in the respective subpopulations across this time period. The inconsistent scattering of country years in the data series makes this method of analysis somewhat crude. Nonetheless, the intra-societal comparisons across time provide preliminary support for the claim that the power of religion is in a state of decline in the West.

As the Venn diagram in Figure 0.1 reveals (see Appendix), twenty-six of the thirty countries in the sample experienced increases in the proportion of "convinced atheists," whereas only twelve witnessed increases in religious subpopulations over the same time period. Only three of the countries saw an increase in religion and a decrease in atheism during this time, while eighteen countries exhibited declines in religion and growth of atheism. Of the thirteen countries demonstrating increases in proportions of nonreligious persons, twelve reveal concurrent increases in atheist subpopulations. For a more detailed illustration of these trends at

the country-level, see Figures 0.2 and 0.3 in the Appendix, which employ the same data series used to construct Figure 0.1.

The trends suggested by these preliminary observations are corroborated by a substantial body of scholarship demonstrating a decline of religiosity in the West. Paul and Zuckerman (2007) argue that the advancement of secularization comprises an unprecedented, severe threat to the future of organized religion in the post-industrialized world. Furthermore, they argue that little can be done to reverse the expansion of secularity on behalf of churches. However, others maintain that while active church membership is in a state of decline in the West, the viability of religious beliefs remains strong (e.g. Davie 1994; Witham 2010; Stark 1999a). Evidence pertaining to the plausibility of each of these opposing claims will be explored throughout this text. Employing a parallel analysis of atheist identity and unbelief in god(s), the original research presented below aims to contribute to the resolution of this debate, which is currently characterized by a notorious dearth of empirical scholarship.

Within each discipline of the social sciences there exists a manifold body of rich scholarship addressing changes in societies' religious climates. Yet despite the prevalence of theory and empirical research concerning religion, there remains a consensus among scholars of the subject that "[w]e know surprisingly little about Atheism from a social-scientific perspective" (Bainbridge 2005, 1). This sentiment is echoed throughout the relevant literature, as elaborated by Schnell and Keenan (2011):

> "In contrast to the resurgent interest in exploration of the intellectual commons shared by religion and science (Keenan & Arweck, 2006)—including, social science itself (Keenan, 2003)—, there has been relatively little sustained social scientific enquiry upon atheism, a fact all the more surprising, perhaps, given the widespread assumption that the social sciences and irreligion, even antireligion, are indivisible soul mates (Coles, 1999; Fenn, 2001)" (56).

We do know that while most persons lacking belief in god(s) in the West describe themselves as nonreligious, only a fraction of the nonreligious population identifies as atheistic. Moreover, international survey evidence reveals substantial differences between the proportion of individuals who claim not to believe in God and those who consider themselves "convinced atheists," rather than merely "not religious" (WVS/EVS 2009; Bréchon 2003; Bruce 2002; Zuckerman 2008). As atheism describes a wide variety of philosophical convictions, there is no consensus as to what particular ideological components differentiate an "atheist" from a person without religious beliefs. This fact should not deter scholars from investigating atheism as a distinct social identity, as enduring proportions of nearly every society identify with the term (Paul and Zuckerman 2007). Instead, the differences in national rates of self-identified "convinced atheists" and those without belief in god(s) demonstrate the need for scholars to conceptualize each component independently, as "[d]rawing meaningful conclusions about the irreligious 'without accurately accounting for this heterogeneity is statistically and methodologically problematic'" (Schnell and Keegan 2011, 58-59: quoting Hwang et al. 2011).

One observation supported by the preliminary statistics presented above and rarely contested among scholars is that atheism is on the rise in the West. From a political science perspective, however, the growth of atheism is not inherently significant. For atheism to be important politically, it must be influenced by political factors and/or serve to influence political behavior. This reflection leads to a puzzle that has received minimal scholarly attention: do atheists act distinctly from theists, or are they politically indistinguishable? If the collective political views and behaviors of atheists are indistinguishable from those of theists, prudent observers will remain suspicious about whether unbelief sustains any substantial relevance in political affairs. In fact, some believe that atheism is indeed politically inefficacious. Richard

Dawkins, a renowned evolutionary biologist at the University of Oxford and outspoken icon of the "New Atheism" movement, expresses this opinion in his 2006 book, *The God Delusion*, stating: "…atheists and agnostics are not organized and therefore exert almost zero [political] influence" (4).

Politics, like religion, operates as both a unifying and dividing force in society. Individuals frequently align themselves with those who share their deepest convictions, whether in regards to the proper role of government or the cosmological order of the universe. Conversely, conflicting ideologies often serve to position individuals in direct political opposition to one another. From this standpoint, several questions emerge as particularly salient: why do some nonbelievers identify as atheists while others refrain from adopting the label? Do the same factors that advance secularization also promote atheist self identification? How and to what extent do the qualities of religious and political climates affect the avowal of atheism? These questions are readily amenable to comparative political analysis.

Rather than dwell on the diversity of philosophical convictions among atheists, the analytical tools of political science are better suited for treating atheism as a supranational social construct (however, insightful social science investigations of the diversity of unbelief do exist; see: Lim, MacGregor, and Putnam 2010; Pasquale 2010; Galen 2009). Theoretical inferences concerning the likely political causes and effects of atheism's prevalence in society can be tested empirically with a comparative research design. Macro-level variables for partisanship and socioeconomic demographics are especially useful predictors of trends in the religious climate (Kaufmann et al. 2011, 2). Scholarly findings about the sources of religious change in society provide a logical and promising foundation for the study of patterns in unbelief, though the potential of this analytical approach remains largely unexplored in academia.

While some social science scholarship has focused on the causes of atheism and its avowal among adherents (e.g. Smith 2011; Becker 2011), other publications have examined the collective political behavior of atheists (e.g. Bréchon 2003; Hunsberger and Altemeyer 2006), either implicitly or explicitly implying atheism's causal role. If disbelief does affect political behavior, the effects are almost certainly, to some extent, endogenous to the sociopolitical context. Atheists have markedly different experiences with religion across societies. For example, nonbelievers living in societies with right wing parties in government are theorized to be more likely to identify as atheists than nonreligious individuals with left-of-center parties in government (see: Chapter 2, H12 below). This is because "atheist" self labeling is, by its very nature, a reactive stance towards religion, and right wing parties tend to alienate atheists with appeals to the collusion of church and state (Norris and Inglehart 2004, Chapter 9). Complementarily, avowed atheists living in highly religious societies are predicted to engage more actively in politics, to be more politicized, and to place themselves further to the left pole of the left/right spectrum of political ideology than avowed atheists in less religious societies (see: Chapter 3, H11-H13). The societal prevalence of "atheist" self labeling and the political behaviors of atheist subpopulations are presumably conditioned by such contextual factors manifesting substantial variation across Western societies. These factors are investigated theoretically and empirically throughout the text.

Of course, the quality of evidence drawn from quantitative analysis reflects the availability of data and the selection of appropriate methodologies. For a comparative research design, the vast complexity of [ir]religiosity and politics across societies compels the consideration of various potential methodological pitfalls. In this research design, the clustering of data by country year and country, combined with the use of macro-level and individual-level

controls, allows for the modeling of various tests aimed at identifying the effects of several sociopolitical predictors. Controls are included to account for systematic biases in the crossnational sample. The relatively large number of hypotheses and corresponding statistical tests provides further protection against inferential errors concerning causal direction. Furthermore, the use of Bayesian modeling reduces the likelihood of Type I errors while relaxing the unwarranted frequentist assumption of "repeated sample logic," which perceives all societies as replicable, random iterations within an infinite population of societies. The selection and justification of these methodological procedures are explained in detail below in Section 2.4.

This research conducted for this dissertation is organized in four distinct chapters. Chapter 1 provides an overview of atheism in Western society and the extant social science scholarship on the subject. A discussion of atheism under communist regimes and a variety of other political conditions provides the groundwork for subsequent theorizing. A parsimonious model explaining atheist identity formation is introduced and schematized, providing a framework for the models constructed in the subsequent chapter.

Chapter 2 investigates the sociopolitical factors that bear potential influence on the prevalence of atheistic beliefs and group identities. An emphasis is placed on identifying potential political factors involved in atheism's rise in the West. Various indicators of [ir]religiosity are conceptualized as dependent variables. Hypotheses deriving from theoretical considerations are explicated and operationalized for quantitative analysis at both the individual and societal levels. Nine variations of a hierarchical Bayesian model are constructed and employed for the testing of hypotheses. The results of the models are presented and discussed.

The methods used in both the second and third chapter are described in detail in Chapter 2. A Bayesian multilevel model representing the archetype for all other models used is

constructed and formalized, illustrated with algebraic logic. Furthermore, the chapter contains a comparison of results from a Bayesian model and those from a corresponding frequentist model in attempt to challenge the contended methodological advantage of Bayesian methods for this research endeavor.

Chapter 3 explores the political behavior of atheists across Western societies, focusing on the distinction between the worldview of contemporary atheism and atheism as a self label indicating an in-group identity. Hypotheses in Chapter 3 comprise predictions at both the individual and societal levels and will be tested accordingly, with indicators of [ir]religiosity serving as independent variables, and, in several cases, as the criteria for case selection. Dependent variables in Chapter 3 include measures of various elements of political behavior.

The abovementioned advantages derived from testing multiple, closely related hypotheses is bolstered by the sub-hypotheses in Chapter 3, which require the use of different samples from the master data as pertaining to different attributes of unbelief. This allows for a wide variety of empirical tests using an optimal series of data. The subtle diversity of the thirteen models allows for a careful examination of the primary nuances of atheism's relationship to politics.

Taken together, Chapters 2 and 3 provide a long overdue empirical analysis of the symbiotic relationship between atheism and politics. While the direction of causality relating atheism and politics may be difficult to determine with confidence for some sociopolitical tendencies, this obstacle is mitigated by investigating each side of the relationship. While Chapter 2 explores the effects of politics on atheism, Chapter 3 investigates atheism's effects on politics, particularly in regards to the political behavior of nonbelievers. A realistic understanding of the relationship between atheism and politics requires a balanced empirical

examination from both angles. Therefore, these chapters serve as necessary complements to one another for addressing the research questions at hand.

The distinction between atheist ideology and identity maintains a central position in both the second and third chapters. Each of these facets of atheism represents a set of broader social dynamics that are expected to relate to politics differently from one another.

Chapter 4 provides a summary discussion of the findings from this research, their significance, and their limitations. Inferences drawn from the models' results are briefly explored in the context of the relevant scholarship and with a broader scope, highlighting the role of atheism in the political and religious climates of the contemporary Western world. In addition, the closing chapter will suggest topics for future research in light of the empirical results of this undertaking.

In short, this dissertation will use the tools of social science to address the most pertinent unknowns about atheism and atheists in the political realm. Using theoretical tools from a myriad of cross-disciplinary scholarship on religion and secularization, this analysis aspires to contribute the first rigorous crossnational research design of atheism in politics. At its core lie basic questions that warrant evidence-backed responses from scholars. Who are the atheists? Where do they come from? How do they relate to national political climates?

CHAPTER 1: ATHEISM: A NON-BELIEF AND A GROUP IDENTITY

The history of godless worldviews is at least as old as that of theism (Berman 1988; Stark 1999; Zuckerman 2010). Across the Western World, however, overt atheism has been considered taboo for most of the past millennium (Stark 1999b). In 1672, Sir Charles Wolseley was among the first to associate a causal relationship between the political liberalization of the Enlightenment and the emergence of overt atheism, stating: "irreligion in its practice hath been the companion of every age, but its open and public defense seems to be peculiar to this" (Durant & Durant 1963, 567). Today, estimates suggest that there are roughly one billion atheists in the world, trailing only the religions of Christianity and Islam in population size (Zuckerman 2007, 18).

Although students of comparative politics do not typically focus their research designs on the political causes and effects of specific [non-]beliefs, the comparativist "toolbox" is well equipped for such inquiries. A nuanced understanding of the politics of atheism requires a careful examination of the distinct role of [non-]belief in politics. The "God debates" have long been the source of fervent controversy among members of the same sociopolitical climates (Shook 2011). Opinions about the existence of god(s) often lie at the very core of individuals' conceptions of life, death, and the purpose (or lack thereof) of humanity. Substantial proportions of most Western nations profess agreement with the statement: "life is meaningful *because* God exists" (emphasis added, WVS/EVS 2009).

Beliefs about whether humans are creations of a higher source of intelligence and power bear myriad effects on the ways individuals situate themselves in society and the world. Religious persons who profess belief in god(s) rarely suggest divine indifference towards one's behavior as a mortal human. On the contrary, gods typically dictate strict demands to their followers and provide rigid normative moral codes for differentiating right from wrong. If [non-]beliefs have any impact on politics, such an impact ought to manifest itself in a comparison of individuals with contrasting opinions about what is perhaps the most central [non-]belief of all: that concerning the existence of god(s).

Bolstering the necessity for this examination of [non-]belief in society is the fact that atheist identifiers are more likely to be apostates than members of any sizable religious group (Zuckerman 2008; Pasquale 2010). Apostasy in this context typically requires conscious reevaluation of religions' truth claims and the eventual rejection of religious doctrines altogether (Smith 2011; Becker 2011). This process is by no means deterministic, according to social scientists. However, it is conditioned by a variety of social, political, and psychological factors.

Individuals' worldviews comprise a variety of idea elements, some of which are more central than others (Converse 1964). In the political behavior literature, the gradations of belief centrality are often conceptualized using Robert Worcester's metaphorical schema of *opinions*, *attitudes*, and *values*. Worcester defines opinions as "the ripples on the surface of the public's consciousness, shallow and easily changed;" attitudes as "the currents below the surface, deeper and stronger;" and values as "the deep tides of public mood, slow to change, but powerful" (1983, 1). While attitudes are more resistant to change than opinions, they may be modified by the attainment of new information or reconsideration, the latter of which typically results from exposure to a new perspective. Values are least subject to change, but can be influenced by

interpersonal communications or exogenous "shocks" that inspire a comprehensive reexamination of personal beliefs. That said, individuals often derive similar attitudes and opinions about an issue while maintaining vastly different value systems as sources of motivation (ibid. Chapter 1). By considering the role of each concept in opinion formation, scholars of political behavior investigate public opinion by searching below the "ripples on the surface" for the idea elements that shape individuals' opinion statements.

For instance, Ronald Inglehart (1997) investigates the political effects of two contrasting value systems (materialism and postmaterialism) across societies, revealing various correlations between values and political behaviors (discussed further in Chapter 3). The belief centrality of the values identified and operationalized by Inglehart pale in comparison to that of [non-]belief in god(s). If postmaterialist and materialist values are indeed the source of divergent political behaviors, an even deeper "current below the surface" bears the potential for momentous political divergences. The expression of unbelief as a social identity reflects an incomplete—though significant—manifestation of a widespread shift in the way many individuals perceive mere existence.

As Almond and Verba's (1963) seminal quantitative analysis of political culture demonstrates, values and politics share an interactive relationship in society. Values are relatively stable over time and can affect political attitudes and opinions in systematic ways (Almond and Verba 1963, Chapter 13). One's self-positioning in the "God debates" often lies even deeper than one's normative values, and may therefore bear substantial influence on one's political values, attitudes, and opinions. Despite its potentially vast implications, the nature of this influence remains largely unexplored.

This chapter develops a foundation for the furtherance of this exploration, establishing a conceptual framework for the empirical research presented in Chapters 2 and 3. The following sections will define and describe the concepts under investigation, present a schematic model of atheist identity development, discuss measurement issues, and present some basic findings from prior studies regarding the social demographics of atheist subpopulations.

1.1 *Defining Atheism in a Sociopolitical Context*

"At its core, atheism is a profoundly simple idea," Jack David Eller explains, "derived from the Greek *a-* for 'no/without' and *theos* for 'god,' it merely designates a position…that includes or asserts no god(s)" (2010, 1). Atheism for the social scientist consists of two principal elements: ideology and identity. The common denominator of atheistic ideologies is a lack of belief in any supernatural deity (Zuckerman 2007), whereas atheistic identity refers to self identification as an "atheist." Depending on the research question, either facet of atheism could constitute the focus of a political science study. Both components are of interest to this dissertation. Among other objectives, this research endeavor aims to shed light on the effects of the secularization process upon individuals' cosmological worldviews and group identities. More broadly, the relationship between politics and these two components of irreligion comprises the primary focus of the original research presented in chapters 2 and 3.

While atheism is often construed as the belief that no gods exist, George Smith (1979) demonstrates that such a definition is overly exclusive. He explains: "Atheism, in its basic form, is not a belief, it is the absence of belief. An Atheist is not primarily a person who *believes* that a

god *does not* exist; rather, he *does not believe* in the existence of a god" (Smith 1979, 14: *emphasis in original*). As is true of theism, there are many diverse categories and subcategories of philosophical beliefs that qualify as atheistic. Smith offers a useful classification of "implicit" and "explicit" atheism. Implicit atheists do not believe in a god, but have not necessarily rejected theism conscientiously, whereas explicit atheists consciously reject all theistic beliefs (ibid. 16-17).

Implicit atheism includes those who have never been exposed to theistic belief systems as well as those who have encountered theisms but have not subscribed to their truth claims (Stein 1980). As such, atheistic citizens of authoritarian nations with state policies of "coercive atheism" (i.e. communist nations) are more likely to be implicit atheists than atheistic citizens socialized in liberal religious environments (i.e. capitalist Western nations). Implicit atheists may consider themselves atheists, or they may lack a[n] [ir]religious identity altogether. In the recent past, communist governments created antireligious policies and programs designed to regulate and limit citizens' exposure to theisms, replacing existing religious institutions with an ideology of "scientific atheism" accredited to the philosophies of Karl Marx and Vladimir Lenin, among others. Although essentially obsolete in the West, coercive atheism continues to bear an impact on the [ir]religious climate of those formerly communistic societies, as evident in their relatively low levels of religiosity even decades after the end of the Cold War (Hormel 2010).

Explicit atheists, in comparison, are more likely to be "organic atheists," having resolved upon their atheistic worldviews without governmental coercion (Zuckerman 2007, 19). They may resolve upon their atheistic worldviews for a number of reasons, explored in detail in the next chapter. Empirical evidence reveals a sharp distinction between the socioeconomic conditions of "Western Bloc" [organic] atheists and atheists living in formerly communist states.

Nations with recent histories of coerced atheism exhibit poor economic development, high levels of corruption, and poor physical health, whereas nations with high levels of organic atheism "are among the healthiest, wealthiest, best educated, and freest societies on earth" (Zuckerman 2007, 19).

Too often in the social sciences, avowed atheists are thrown into an umbrella group of the nonreligious, causing an obfuscation of the "complexity of unbelief" (Pruyser 1992, 195; see also: Pasquale 2009). Social scientist Paul Pruyser critiques this tradition due to its disregard of a distinctly nonreligious position he refers to as "irreligion":

> "Irreligion is not merely the absence of something, and certainly not simply the missing of something good, desirable, or pleasant. It is much closer to adopting an active stance or posture, involving the act of excluding another posture which, despite its popularity or naturalness, is deemed to be a poor fit in an acquired life style. Irreligion, like religion, can be zealous, militant, declarative, dogmatic, or [persuasive]. Like religion, it can be the product of training, existential decision-making, or drifting. And all too often it can be the product of religious instruction!" (Pruyser 1992, 174)

It is important to note that irreligion does not imply hostility towards religion, but rather a conscious rejection of all religions' supernatural truth claims (Swatos 1998). That said, avowed atheists may very well tend to hold more antireligious views than unavowed atheists. Empirical evidence substantiates the claim that the avowal of atheism entails a critical self-positioning towards religion rather than an objective expression of metaphysical views (see: Galan 2009; Pasquale 2010). Employing survey data from a sizeable sample (n=922) containing members of every known freestanding secularist group in Oregon, Washington, and southern British Columbia, Pasquale (2010) identifies consistent ideological differences between subjects based on the secular labels they prefer for themselves. Compared to self-described humanists, skeptics, rationalists, and freethinkers, secular group affiliates identifying as atheists report the highest levels of anger about the role and effects of religion in the world (ibid. 69). Additionally, the

self-labeled atheists in the study are among the most likely group affiliates to regard religion as a harmful force in human affairs (ibid. 71).

Despite the absence of a categorical distinction between atheists and the nonreligious in most comparative studies of religiosity, some political behavior research has incorporated this distinction to considerable avail. Bréchon (2003) asserts that the importance of incorporating a Protestant/Catholic divide in the modeling of Western political values is gradually succumbing to a swelling Christian/Atheist political cleavage. The author emphasizes that "committed atheists" should be observed distinctly from those who are uninterested in religion, a claim substantiated by the results of his empirical model predicting political values and participation. Bréchon's findings demonstrate that, even after controlling for standard demographic attributes, "those who reject religious systems participate more intensely in politics" than other nonreligious citizens (ibid. 128). Furthermore, he finds that atheists in most Western nations are less nationalistic than other nonreligious citizens (as well as religious citizens) (136, 159 Table 6.14). Similarly, Geissbuhler (2002) finds that atheists tend to be more liberal and less trustworthy of formal institutions than their nonreligious and religious social counterparts (117-119). These studies substantiate a broader truth typically disregarded in the literature: that organic atheists exhibit systematically different political behavioral patterns compared to other nonreligious individuals in the West.

1.2: *Atheist Identity Construction*

The adoption of an atheist identity entails more than a lack of belief in gods. The term "atheist" maintains a social stigma in many Western societies, ensuring that "coming out" as an atheist is rarely a decision to be taken lightly. Most ideological atheists around the globe do not

label themselves atheists. Many prefer labels such as "agnostic" or "nonreligious." However, all of those without belief in god(s) are in fact atheists, whether implicit or explicit. Jack David Eller (2010) demonstrates this logically:

> "Can one maintain that there is no such thing as god(s) yet believe in them? Not without contradicting oneself. Can one maintain that there is such a thing as god(s) yet not believe in them? Not in any sensible way. So, it emerges that there are only two consistent positions: either one claims that there is such a thing as god(s) and believes in them, or one claims that there is no such thing as god(s) and does not believe in them…Atheism says one thing and one thing only: that there is no such thing as god(s)" (in: Zuckerman 2010, 6-7)

Thus the atheist self-labeling process is conditioned by more than merely a lack of belief in god(s). Nations across the Western world vary significantly in their proportions of atheist identities among those lacking belief in god(s) (WVS 2010; EVS 2011; Bruce 2002). What sociopolitical and/or historical factors are responsible for these cross-societal differences in atheist self identification? Addressing this question requires a concise understanding of social identity construction.

At its core, identity is what members of society use to locate themselves within social life (Smith 2011; Becker 2011). Each individual holds several identities, organized hierarchically according to the strength and salience of each particular identity component (Stryker 1968). Fluid identity hierarchies "comprise the self, shape understanding, and influence behavior" (Smith 2011, 5). Furthermore, identity is used to delineate membership in social groups. One may adopt an identity in order to align with a group, to express deviance, or to synchronize personal views with extant social categories, among other motivations (ibid., Stryker 1968). In short, "[i]dentity is about belonging somewhere" (Epstein 2009, 179).

An atheist identity typically entails the adoption of a stigmatized, socially deviant label, which may incur a high cost for the atheist identifier. In a study of American atheists, Smith (2011) finds that the price of "coming out" atheist is typically offset by the rewards of internal

consistency and an outspoken, honest self-positioning. Furthermore, Smith reveals that atheists' determination to disassociate from religion is enhanced by interactions with theists, as "the felt tensions, and the awareness of the deviant status of their views, actually serve[s] to encourage or promote their desire to claim the deviant identity" (24). Interpreting these findings through the lens of symbolic interaction theory, Smith develops a four-stage model of atheist identity development. The process begins with the "ubiquity of theism" in society, which serves as a reference point for all cosmological self-positioning in society. The next stage is characterized by the questioning of theism, which is often experienced by young adults living away from home for the first time, particularly in college, when moral foundations are frequently scrutinized (13).

The third stage entails the rejection of theism, occurring once an individual perceives core religious claims to be implausible. Altemeyer and Hunsberger (1997) argue that those who reject religion generally do so as a result of disagreement with theological truth claims, rather than as a reaction to individuals or cultures within the religious community. The final stage of the process is defined as "coming out atheist," whereby one internalizes the atheist self-label and applies it in social discourse. According to Altemeyer and Hunsberger (ibid.), advancement to this stage implies a "dramatic transformation of self in terms of becoming one's own person…being free and confident in one's nonreligious beliefs" (232). This transformation is generally coupled with the avowal of a scientific, secular worldview (Becker 2011, 15). This parsimonious model emphasizes the centrality of religion's role in the social construction of atheistic identities. It is illustrated schematically in Figure 1.1 (see Appendix)

1.3: *Measuring Irreligion in Society*

Large *N* quantitative research on atheists relies on the use of survey data in which respondents' attributes are self-reported. Several caveats must be considered in light of what we know about how individuals respond to interviewers. An appropriate starting point for these considerations addresses the particular survey items used to indicate core components of [ir]religiosity in comparative research designs.

The European Values Survey (EVS) and World Values Survey (WVS), the primary sources of quantitative data used in this dissertation, ask respondents whether or not they believe in God, and whether they would classify themselves as "a religious person," "not a religious person," or "a convinced atheist." While the first of these survey items concerns the respondents' personal beliefs and is relatively unambiguous, the second includes a group identification element, as it provides two conceivably accurate response options for the nonbeliever. One option is clearly more neutral towards religion, while the other includes a descriptor indicating the decisiveness of one's nonreligious convictions (i.e. "convinced") as well as a group label signifying a distrusted social identity ("atheist") (Gervais 2011). Steve Bruce describes the resulting latent response bias of a nearly identical survey item:

> "…the method for generating these data is slightly suspect. Consider first the proffered labels. While we can see that the adjective 'convinced' is placed in front of 'atheist' in order to distinguish the category clearly from that of agnostic, it remains the case that this is the only label that is augmented and the augmentation seems likely to minimize the frequency with which it is chosen. There is no 'really' in front of…'religious'…there is a danger that to British ears 'convinced atheist' will suggest cranks in sandals…
>
> "The lack of symmetry in the choice of labels is problem enough, but there is an even greater source of error built into this very type of question: it supposes that being religious is the norm and then asks people to position themselves relative to that norm. In effect, it asks 'If you are not religious, what are you?' It asks those who decline the first position nonetheless to strike an attitude towards it" (2002, 193)

Rather than mitigate the impact of this response bias in the corresponding data, this research design will exploit it. By contrasting unbelief in god(s) with "convinced atheist"

identification, a clearer picture of atheism's role in society—and society's role in atheism—will steadily unfurl in the forthcoming chapters.

Additional complications arise with the WVS/EVS survey item. For one, respondents tend to gravitate towards the middle point of any given self-placement scale, "regardless of the labels used to define it" (Krosnick 1999, 544). Furthermore, attitudes and behaviors considered disreputable are less frequently reported than those deemed admirable, as evident in the consistent overreporting of voter turnout in democratic societies (ibid., 545). However, stronger attitudes toward an issue are more likely to override the neutrality heuristic and yield resolute responses reflecting sincere positions (ibid., 557-8).

Applying this logic to the WVS/EVS survey item gauging [ir]religious self-labels suggests that explicit atheists are inherently more likely to identify as "convinced atheists" than implicit atheists, *ceteris paribus*, given the former's cognizant rejection of theism. Implicit atheists are relatively more likely to identify as "nonreligious" when given the option alongside that of "convinced atheist," due in part to the lesser magnitude of their deviation from religious belief. In addition, explicit atheists are more likely to foster readily accessible cognitive considerations regarding their irreligious group identities. Given that survey respondents often employ "top of the head" reasoning when constructing opinion statements or selecting response options (see: Zaller 1992), the salience (or "cognitive accessibility") of one's [non-]belief is likely a crucial factor in response outcomes for this survey item.

Due in no small part to the rampant vilification of atheism in recent times (see: Edgell et al, 2006; Epstein 2009; Gervais 2011), additional measurement issues from the use of survey data abound. Even in the absence of governmental restrictions, social stigmas can curtail the number of nonbelievers who express their stigmatized beliefs to interviewers. Moreover,

concepts of "religious" and "God" have different meanings in different societies, further impairing the cross-national generalizability of survey evidence regarding religiosity. However, these dilemmas are not insurmountable, as Zuckerman optimistically remarks: "[d]espite the above methodological limitations, we *can* make reliable estimates. Though methodological flaws persist…'we must make do with the imperfect evidence that we can find, not merely lament its deficiencies'" (2007, 1-2, quoting Putnam 2000, 23).

1.4 *Demographics of Atheism*

Despite the importance of social context, several demographic attributes of nonbelievers transcend both cultural and political boundaries. For instance, survey evidence reveals that men tend to be less religious than women in every society with available data (Zuckerman 2010b). Concerning disaffiliation from religion, "in all existing studies of apostasy…men are far more likely to become apostates than women" (Zuckerman 2010b). As one would suspect, individuals raised in nonreligious homes are consistently more likely to identify as nonreligious (Baker and Smith 2009; Sherkat 2008; Tamney 1989). Even among the nonreligious, avowed atheists are most frequently young, unmarried, college educated, and male (Baker and Smith 2009; Hayes 2000; Kosmin and Keysar 2009; Sherkat 2008; Schnell and Keegan 2011; Tamney et al. 1989; Vargas 2012).

A gender gap pervades nearly all standard indicators of [ir]religiosity, though its severity is conditioned by several known factors as well as others yet to be discovered. The extant research suggests that the role of gender in religious disaffiliation is conditioned in part by normative gender roles in society. Tamney and colleagues (1989) argue that religion's more central role in women's lives incurs a greater cost of internalizing non-religiosity. Collett and

Lizardo (2009) find the gender gap to be substantially smaller among adults raised in gender egalitarian households than among those from patriarchal homes. The authors attribute this correlation to variation in the extent of children's social control across the household types. Greater social control during childhood, rather than mere maleness, is linked to a higher propensity for risky behavior (Vargas 2012, 217). After childhood, male college students demonstrate more dramatic declines in religious observance than their female counterparts (Stoppa and Lefkowitz 2011). However, two recent studies of American "nones" fail to identify a gender effect on the stability of adults' nonreligious identities over time (Lim et al. 2010; Vargas 2012). This is likely due to the crystallization of religious identities that usually occurs before the late 20's (Smith 2011; Becker 2011).

However, women may choose to identify as atheists for different reasons than men. In a study of German-speaking self-labeled atheists, Schnell and Keegan (2011) found evidence that "male atheists are more committed to knowledge, self-knowledge, and reason than female atheists. The latter, however, are considerably more committed to community and love" (74). Though no cross-national comparative analysis of the [ir]religious gender gap has yet been published, to this author's knowledge, a cursory examination of the WVS/EVS data (1981-2009) suggests that "community" bears a strong incentive for women to identify as atheists, if measured by the relative size of the atheist community. Figure 1.2 (see Appendix) maps the female proportion of the self-labeled atheist population on the *x*-axis and the atheist proportion of entire population on the *y*-axis. Similarly, Figure 1.3 charts the female proportion of the "godless" on the *x*-axis and proportions of national populations without theistic beliefs on the *y*-axis. Cases include 29 Western societies with data from the years 1981-2009. The figures illustrate that smaller atheist populations tend to be more male-dominated [numerically] than

larger ones (see Figures 1.2 and 1.3 in the Appendix). For instance, in Ireland, the nation with the fewest atheists per capita, "convinced atheists" comprise just 1.0% of the national population, 75% of whom are men. In France and Germany, where atheists include 14.1 and 13.4% of the populations [respectively], men constitute 62 and 58% of atheists [respectively]. The strength of this correlation suggests that the conditionality of gender effects is observable at the macro level of analysis. Forthcoming models will account for this trend by allowing gender effects to vary by country year.

Finally, atheists are observed to have relatively high levels of economic security relative to their peers (Bréchon 2003; Pasquale 2010; Galen 2009; Geissbühler 2002). Similarly, Norris and Inglehart (2004) demonstrate that economic security is the driving force of secularization, particularly when coupled with higher education. The social demographics of avowed atheists are rather conducive to the core elements of the theorized secularization process. What remains undiscovered is how well the theory of secularization explains atheism.

CHAPTER 2: THE SOCIOPOLITICAL IMPETUSES OF ATHEISTIC WORLDVIEWS AND IDENTITIES

2.1: *Introduction*

As leading scholars of both major theoretical approaches agree, "[w]hat is needed is not a simpleminded theory of inevitable religious decline, but a theory to explain variation" (Stark and Finke 2000, 33). Accordingly, this chapter will develop testable assertions regarding variations in population distributions across several stages of the atheist formation process, utilizing and contrasting the two leading theories of religious change as the guiding constructs for developing testable hypotheses. Original empirical findings are derived from formal models and discussed in the context of ongoing scholarly debates and contemporary trends in Western religiosity.

A glance at the relevant statistics demonstrates that the strength of the correlations between atheistic identification and unbelief in god(s) varies significantly across societies. For instance, data from the 2005 Eurobarometer survey illustrate that Estonia, Sweden, Denmark, and the Netherlands all contain smaller proportions of believers in God than France and Germany, yet France and Germany have substantially larger proportions of self-described atheists (Papacostas 2006). Furthermore, these cross-national variations show relative stability over time, according to longitudinal survey evidence (Paul and Zuckerman 2007; WVS/EVS 2009). Individuals' responses to these survey items are clearly influenced by their broader

sociopolitical environments. The task at hand, therefore, is to identify and relate the impacts of various social and political attributes upon (1) the social prevalence of each atheism component and (2) the likelihood of a "godless" individual identifying as a "convinced atheist" in a given society. Accomplishing this task requires the use of a much broader scope, encompassing the social interconnectedness of religion, secularization, and irreligion.

Unfortunately, most empirical analyses of international religious trends fail to systematically distinguish atheism from a mere lack of religious belief. Contemporary social science scholarship on the topic of religion is dominated by two distinct theoretical approaches: secularization theory and rational choice supply side economic theory (Norris and Inglehart 2004, Chapter 1). The core tenets of each theory do not include explicit postulates regarding the expectations for rates of avowed atheism relative to other nonreligious identities. This is due in part to a lack of consensus regarding the group dynamics that define atheism. That said, the study of atheism in society certainly belongs in the broader category of scholarship on religion and secularism, and thus warrants rigorous empirical examination from each major theoretical perspective. In fact, an exploration of atheism under these respective theoretical lenses offers an opportunity to gain new insight into the process of secularization as well as the operations of the "religious economy."

It is important to recall that atheism in a social context is a multidimensional concept, and scholarship on the subject analyzes the different dimensions from various perspectives. Atheism is sometimes operationalized as an *ideological stance* (i.e. "anti-religion") under the umbrella of nonreligion (Froese and Pfaff 2005; Greeley 2003), akin to the polar opposite of devout religiosity (e.g. Bruce 1999; Jagodzinski and Greeley n.d.). Other studies emphasize the *group identity* component of atheism in the religious environment, given its relationship with

interpersonal interactions and the religious landscape of a given society (e.g. Berman 1988; Froese 2004; Sproull and Faraj 1997; Wilson 2007; Ysseldyk et al. 2010). These perspectives are certainly not mutually exclusive, but rather reflect different facets of the same phenomenon. Neither perspective categorically refutes the widespread claim that avowed atheism is, to some extent, a reaction to others' religiosity. Notwithstanding the compatibility of these approaches, the literature review section of this essay will demonstrate that the former operationalization (emphasizing ideology) is more common in applications of secularization theory while the latter (emphasizing group identity) is more congruent with the axioms and assumptions of supply side religious economy theory.

Neither of the two leading theories has yet been evaluated with an empirical investigation that accounts for cross-national variations between rates of avowed atheism and unbelief in god(s). However, given that each of these variables reflects a separate core component of irreligiosity, the significance of this distinction warrants a closer examination. Survey evidence from the European Values Survey (EVS) and World Values Survey (WVS) provides an ideal means for obtaining new insights into the social dynamics of disbelief. After exploring the extant social science scholarship on atheism [below], I contend that a nonbeliever's response to this question is systematically conditioned by several sociopolitical factors.

First, it is necessary to formally distinguish the expression of atheistic beliefs from atheistic self-identification. What we define as atheistic beliefs may or may not accompany identification with atheism on behalf of an individual holding those beliefs. Technically, atheism does not denote any specific beliefs, but rather the lack of a belief (see Chapter 1). That said, the term "atheistic beliefs" will be used to denote any worldview that does not include the existence of a "god," which the survey respondents must define subjectively. In contrast to the holding of

atheistic beliefs, describing oneself as a "convinced atheist" typically entails the internalization of an "anti-clerical" identity (Bruce 2002, 193), marking a stance towards religion rather than a distinct worldview. Accordingly, a society (S) is equal to the sum of believers (B) and nonbelievers (NB) in god(s), while nonbelievers comprise avowed atheists (AA) and unavowed atheists (UA). Algebraically, these relationships are described by the following formulas:

$$S = B + NB$$

$$NB = AA + UA$$

This chapter includes hypotheses regarding the ideological (NB) and group identification (AA) components of atheism as well as their relationship with one another (AA/NB). Atheistic beliefs (NB) will be indicated by a lack of belief in God, whereas atheist identification (AA) will describe self-declared "convinced atheists." In order to isolate the social identity component of atheism, several hypotheses predict trends in the proportion of avowed atheists among nonbelievers (AA/NB), thereby controlling for the defining ideological tenet of unbelief [in god(s)]. Using Smith's (2011) model of atheist identity construction introduced in the previous chapter, these various social divisions are situated schematically in the Figure 2.01 (see Appendix), indicating which segment of society is represented in each stage in the process. Note that the first stage, the "starting point" of religion's ubiquity, is positioned as an axiom, given that atheists comprised only about 0.2% of the world population in 1900, when Christianity was nearly universal in the West (Paul and Zuckerman 2007). In other words, all societies are presumed to share a history of ubiquitous theism, thus variations in theistic social dominance begin with the subsequent stages of the process.

To clarify, the parameters of the hypotheses that follow are confined to Western societies in the postmodern era. While some Western societies have experienced various degrees of

religious suppression under communist rule, this fact does not prevent individuals within those societies from adopting atheistic views "organically," rather than as the result of state coercion. Moreover, the inclusion of formerly communist societies in this analysis prevents the systematic biases that would otherwise skew empirical results as a result neglecting a significant portion of Western societies (Huntington 1996). Although the term "atheism" will primarily describe organic atheism in this dissertation, the forthcoming discussion and research design will elucidate a distinction between coerced and organic atheism whenever theory suggests their divergence.

This chapter lays the groundwork for a thorough comparative evaluation of the leading social science theories of religion and their respective abilities to explain cross-national variations in atheism's core components. Several explanations for variations in societies' proportions of atheists are introduced and formalized, with particular attention paid to distinguishing trends in the ideological component of irreligion (disbelief in God) from those of the group identification component (avowed atheism/atheist identification). First, I offer an overview of secularization theory scholarship and the conceptual issues that have presumably forestalled the development of cross-national research on the subject of atheism. I then develop a series of hypotheses derived from theory and integrate them into a schematic model of secularization theory as applied to atheism. Subsequently, I introduce the leading alternative to secularization theory: supply side religious economy theory. An overview of the extant literature within this tradition and its application to the subject of atheism precedes the construction of an additional schematic model, which utilizes the same atheist identity formation model used to construct the secularization theory schema. Next, a discussion of case selection, data sources, and formal modeling ensues, followed by the formalization of empirical methods for quantitative

data analysis. Results of the models are then presented and discussed, preceding a brief conclusion regarding the significance of findings, methodological weaknesses, and issues ripe for further scholarly examination.

2.2: *Secularization Theory and Atheism*

2.21: *Literature Review*

Since the early sociological analyses of religion conducted by Marx, Weber, and Durkheim (among others), the mainstream perspective among social scientists studying religion has been some form of secularization theory. Initially, proponents alleged that the rational scientific worldview spawned by the Enlightenment would prevail over dogmatic theologies and eventually seal religion in the vaults of history. However, the unfolding of the twentieth century bore witness to enduring religious institutions in spite of industrialization and the advances of science and education.

By the 1950s, the dominant scholarly account of religion's role in society adopted a functionalist approach, perceiving the durability of churches as a result of the many social functions provided to church members. Functionalists argued that the rise of educational and social welfare programs administered by secular state institutions served to reduce the churches' role in society, thereby weakening individuals' allegiance to religious ideas and institutions. However, functionalist theory lost its dominance during the 1960s as its unidirectional assumptions of societal change were subjected to mounting empirical challenges. Religion's popularity was observed to rise and fall over time both within and across societies, leading

scholars to view these developments as outcomes of complex historical processes influenced by a variety of factors. Scholarship of recent decades has incorporated this nuanced approach to studies of religious change while maintaining strong roots in the functionalist school of secularization theory (Norris and Inglehart 2004, Chapter 1; Bruce 2002). Regarding the contemporary Western world, scholars within this tradition posit an ongoing advancement of *secularization*, conceptualized as:

> "…the process by which the sacred gives way to the secular, whether in matters of personal faith, institutional practice, or political power. It involves a transition in which things once revered become ordinary, the sanctified becomes mundane, and things other-worldly lose their prefix. Whereas "secularity" refers to a condition of sacredlessness, and "secularism" is the ideology devoted to such a state, secularization is a historical dynamic that may occur gradually or suddenly and may be replaceable, if not reversible" (Demerath 2001, 213).

The keystone contention of secularization theory is the belief that the social forces accompanying industrialization and modernization tend to promote a decline in religiosity as a result of higher education, especially in the natural sciences, and increasing levels of economic security among national populations. The theory contends that, "…as societies industrialize, almost regardless of what religious leaders and organizations attempt, religious habits will gradually erode, and the public will become indifferent to spiritual appeals" (Norris and Inglehart 2004, 7). In other words, advocates maintain that demand for religion is inversely related to the extent of economic security experienced during individuals' periods of socialization [adolescence], when most people crystallize personal [non]religious beliefs that tend to remain stable for the remainder of their lifetimes. Accordingly, aggregate changes in religiosity are explained by changes in economic and educational conditions. In contemporary scholarship, secularization theory has garnered substantial empirical support, particularly in analyses of the declining religiosity of Western Europe (Gill and Lundsgaarde 2004; Norris and Inglehart 2004).

An instrumental argument of contemporary secularization theorists contends that religious views lose sway among members of a national population when the state increases its role in providing services traditionally reserved to religious institutions, particularly the services of public education and programs comprising a "social welfare state" (Gill and Lundsgaarde 2004; Norris and Inglehart 2004, 106-8). This "substitution effect" of secular institutions' increasing role in providing services is one of several economic factors linked to the secularization process. In addition, economic inequality is posited by secularization theorists as bearing an inverse relationship with religiosity (Norris and Inglehart 2004; Solt et al. 2011). Exploring macro- and micro-level statistics on religiosity relative to economic inequality, state welfare expenditures, and vulnerability to life-threatening afflictions, Norris and Inglehart find that the strongest explanation for cross-national variations in religiosity pinpoints conditions of economic security at both individual and societal levels (2004, 18-19). In other words, religiosity wanes under conditions of economic security, especially when the state government is actively involved in "secularizing" education and social welfare (by procuring "safety nets" for all citizens). Complementarily, high levels of economic inequality are said to induce greater demand for religion due to a lack of perceived security, given the potential for one to lose access to basic needs, such as satisfactory health care and adequate nutrition (Gill and Lundsgaarde 2004, 424).

Recent work in this school of thought has treated urbanization as a manifestation of several secularizing forces, including social differentiation, long-term economic growth, and sociocultural diversity (Bruce 2002, 4-14; Gill and Lundsgaarde 2004, 415). The secularizing implications of urbanization can be best illustrated by considering the alternative, where "embeddedness in rural and regional communities can lead to an unquestioning acceptance of

articles of faith. Preferences will crystallize because individuals have limited access to trusted sources of alternative information" (Sherkat 2008, 442-3).

Additionally, higher levels of education are said to catalyze the secularization process, as such educational attainment "may generate a more critical approach to faith—perhaps even embracing doubt as a component of religious value. Here, the issue is not one of negotiating religious strictness or worldly demands coming from faith, but rather the educated may develop greater cognitive sophistication, which leads to a more critical view of faith" (Sherkat 2008, 442). Higher levels of education (particularly secular education) may further advance the decline of religiosity due to the exposure to various belief systems prevalent in advanced educational programs (Sherkat 2008). This postulation reflects an underlying contention of the secularization paradigm: that religious diversity (e.g. pluralism) weakens religiosity by "removing the social support for any one religion and by encouraging people to confine their religious beliefs to specific compartments and to remove the specific and contested elements from their beliefs" (Bruce 2002, 22; see also: Chavez and Gorski 2001; Berger 1998). If higher education tends to promote secularization, it does so by encouraging students to critically examine their personal ecumenical views. Education thus occupies a unique position in the secularization process, targeting the perceived plausibility of religious worldviews rather than the social functions of religion. If atheism marches in the vanguard of secularization, higher education should bear a positive association with atheistic worldviews.

However, secularization theory does not directly address whether conditions of economic security and education will have the same relationship with atheism as with the decline of religion. Applications of the theory have focused almost exclusively on levels of religiosity, thereby ignoring the dynamics of irreligiosity. While any secularization theorist is almost certain

to agree with some degree of connectedness between rising rates of non-religion and those of "organic" atheism in the West, and would likely assert similar causal factors in the trends of these identifications, the paradigmatic theory does not specify the relationship between organic atheism and the receding social presence of religious institutions. Steve Bruce contends that although rates of avowed atheism comprise an "interesting secondary indicator [of secularization]," the secularizing process is most evident in the rising indifference towards religion (2002, 43). Critical questions remain unaddressed in the extant scholarship. Does the secularization of a society reduce the prevalence of belief in God? Do the same causal mechanisms of secularization also promote atheistic worldviews at the level of the individual?

Some scholars critical of the secularization paradigm suggest that the theory implies affirmances to such questions: that atheism "represents the spearhead of secularization" (Bainbridge 2005, 5; see also: Jagodzinski and Greeley n.d.). While these critics fail to find evidence of widespread Western secularization under this premise, the allegedly "disconfirming" evidence derives from a flawed operationalization of the contested theory. By limiting their analyses to avowed (i.e. explicit) atheists, these studies obfuscate the relationship between secularization and atheistic worldviews. Instead, they comprise a fruitless search for a stable relationship between secularization and atheistic *social identity*. Secularization theory posits no such relationship. However, the socioeconomic mechanisms of secularization theory should indeed bear a direct impact on the propensity of atheistic *worldviews*, given the socially inextricable link between gods and religions. Several cross-national demographic patterns offer preliminary support for this viewpoint at the individual level of analysis. Those who do not believe in god(s), in comparison to the nonreligious individuals who do, tend to exhibit more extreme deviations from the distinguishing socioeconomic characteristics of religious observers,

and in the same directions. For example, Western nonbelievers tend to be younger, better educated, and wealthier than nonreligious believers [in God], who are younger, more educated, and wealthier than religious believers (WVS/EVS 1981-2005; Bréchon 2003; Baker and Smith 2009; Sherkat 2008).

Despite the scarcity of empirical work on the subject of avowed atheism, secularization theorists make several predictions regarding the factors that condition rates of atheism as a group identity. For instance, Steve Bruce posits an inherent concurrence between avowed atheism and sustained religiosity in a population, stating: "[s]elf-conscious atheism and agnosticism are features of religious cultures…They are postures adopted in a world where people are keenly interested in religion" (1996, 58). This theoretical claim identifies the strength of religiosity within a nonbeliever's society as bearing a positive impact on her likelihood of identifying as an atheist. Nevertheless, individuals claiming such an identity must overcome the social reality that "the term [atheist] has been less a descriptive term and more of a judgmental one, and a negative and relative judgment at that" (Eller 2010, 1: in Zuckerman 2010). In contrast, the expression of unlabeled atheistic beliefs (i.e. lack of belief in God) does not entail the same degree of self-positioning towards religion. Given that secularization theorists posit a decline in the relevance, persuasiveness, and plausibility of religious claims in the West, it follows that individuals in secularized societies are less likely to profess belief in God than individuals in religious societies, regardless of whether they are indifferent towards religion or opposed to it.

Complementarily, Phil Zuckerman (2008) explores the social disincentives for nonbelievers to identify as atheists. Zuckerman explains the remarkably high levels of denominational religious identification among nonreligious Danes and Swedes with the concept of "cultural religion," defined as: "the phenomenon of people identifying with historically

religious traditions, and engaging in ostensibly religious practices, without truly believing in the supernatural content thereof" (154). Many of Zuckerman's Scandinavian respondents reportedly refused the label of "atheist," despite their overt rejection of religions' supernatural claims. These individuals typically perceived the term "atheist" as too extreme or hostile to respected religious traditions. In fact, Scandinavian culture has largely abandoned religious faith while maintaining the exercise of religious rituals marking major life events, such as baptisms, weddings, and funerals. Zuckerman links the prevalence of cultural religion in Sweden and Denmark to the low rates of avowed atheism within the secular majorities (ibid.).

2.22: *Theory*

To recapitulate the literature review above, secularization theory predicts that the social conditions accompanying industrialization (or modernization) serve to induce secularization, or a dramatic reduction of religious institutions' salience in society. As religious teachings lose relevance to individuals' everyday lives, the weakened societal role of religion reduces the persuasiveness of religious truth claims. This societal repositioning away from a religiously-oriented "sacred canopy" will tend to induce a population shift towards atheistic beliefs. The reality of this proposition presents itself to empirical inquiry only once the conjecture is expressed in a falsifiable statement comprising our first hypothesis:

> **H1**: As a society becomes more secularized, the expression of atheistic beliefs among members of that society increases.

To gain a clearer understanding of this hypothesized relationship—that an increased prevalence of atheistic beliefs tends to accompany the process of secularization—we must investigate the several mechanisms of the secularization process according to theory. In addition to the society-level variables of social welfare spending, income inequality, urbanization, and economic development, the theory contends that the individual-level variables of education and economic status (both absolute and relative) are core components of the secularization process (Norris and Inglehart 2004, 106-8). The secularizing impact of these "core" variables upon levels of religious adherence and participation is well established in the literature (e.g. Gill and Lundsgaarde 2004; Norris and Inglehart 2004; Solt et al. 2011). Therefore, this analysis presupposes the validity of these socioeconomic forces linked to secularization and focuses on their roles in shaping atheistic beliefs and identities. As such, expectations derived from "unpacking" H1 are formalized in the hypotheses:

H2: As a government's social welfare spending increases, the social prevalence of atheistic beliefs increases.

H3: Income inequality bears an inverse relationship with the prevalence of atheistic beliefs.

H4: The level of urbanization in a society bears a direct relationship with the prevalence of atheistic beliefs.

H5: The extent of a society's economic development is directly related to the prevalence of atheistic beliefs among members of the society

H6: Individuals with higher economic standing in their respective societies are more likely to express atheistic beliefs than those with lower economic standing.

H7: Individuals with higher levels of formal education are more likely to express atheistic beliefs than those with less formal education.

Furthermore, the secularization paradigm holds that religious pluralism serves to weaken religiosity in a population by exposing individuals to irresolvable, competing truth claims. The contradictions between these truth claims are said to decrease their persuasiveness and encourage the privatization of religious expression, thereby creating a secular public sphere in which social functions are fulfilled with an indifference towards any particular religious creed (Berger 1998; Bruce 2002, 237). This view of religious pluralism's role in secularization directly opposes the view of supply side religious economy theorists, and therefore demands an investigation of religious pluralism's effect on societal religiosity. If religiosity wanes in both public and private domains as a result of religious pluralism, so too should the prevalence of belief in religions' supernatural claims. This leads to the following hypotheses:

H8: The extent of religious pluralism in a society is directly related to the level of secularization of the society.

H9: The extent of religious pluralism in a society is directly related to the prevalence of atheistic beliefs among members of the society.

As noted in the literature review [above], not all secularization theorists explicitly posit a direct linkage between the factors responsible for secularization and the prevalence of atheistic beliefs, nor do they limit their theoretical ventures to the ideological component of atheism. Phil Zuckerman (2008), for instance, explains the low levels of avowed atheism in Scandinavia by invoking the concept of "cultural religion." A culturally religious individual identifies with a

particular religious tradition—typically mirroring one's childhood religious affiliation—and occasionally engages in religious activities, yet rejects religions' supernatural claims. According to Zuckerman (ibid.), widespread cultural religion in society deters atheist self-identification due, in part, to the implicit hostility perceived in the "atheist" label and the lack of antipathy towards religion on behalf of nonbelievers.

Furthermore, religious communities often provide secular goods to their members, such as friendships, moral support, a sense of belonging, and social cohesion (Becker 2011, 7). By adopting a religious identity, one may reap some of these rewards without having personal faith in the respective religious doctrine. In this way, a religious identity may substitute as a cultural identity for some (Edgell et al. 2006), especially in societies that do not bear witness to substantial hostility between religious and nonreligious groups. Accordingly, I include the following hypothesis:

> **H10**: As the level of cultural religion in society increases, the prevalence of avowed atheism among nonbelievers decreases.

Additionally, several secularization theorists contend that levels of avowed atheism are in large part reflective of sustained religiosity in society (e.g. Zuckerman 2008; Bruce 2002). These scholars suggest that avowed atheism is a reactive position that only has relevance in a social context that includes substantial levels of theism. When religiosity loses salience in public life, religious indifference, rather than avowed atheism, is purportedly the most likely outcome. As Steve Bruce asserts: "…the decline in the social significance of religion…reduces the number of people interested in religion" (2002, 41). Correspondingly, secular individuals in highly religious societies experience a greater social significance of religion, thereby making religion

more salient to their lives. Hence these individuals are less likely to feel disinterested about religion than nonbelievers in a less religious society. Similarly, if childhood experience with religion affects the salience of religion in individuals' worldviews, societies in which more individuals are raised religiously should contain more avowed atheists among those who lack belief in God than populations with less religious upbringings. Accordingly, I incorporate the following hypothesis:

> **H11**: The level of religiosity in society is positively correlated with the prevalence of avowed atheism among those who lack belief in God.

The salience of religion in contemporary Western societies often reveals itself in political party platforms. Given that religiosity is the strongest predictor of support for right-of-center parties (Norris and Inglehart 2004, 201), rightist party platforms in relatively religious societies are especially prone to alienate, if not radicalize, nonbelievers. The collusion of religiosity and political party platforms tends to be most evident in right-wing parties, which tend to adopt conservative positions favoring longstanding traditions from eras characterized by religious hegemony (ibid., Chapter 9). Further, these parties often rally support by appealing to religious group identities and/or beliefs, thereby increasing the salience of religious identity and bolstering the religious/nonreligious cleavage in the electorate. If atheist self-identification is indeed a reaction to the perceived political threat of a religious majority, elected governments led by right-wing parties will tend to incentivize the avowal of atheism among nonbelievers. Drawing an inference in accordance to this logic, the next hypothesis is as follows:

H12: Nonbelievers are more likely to identify as atheists when their governments are ruled by right-of-center political parties, as opposed to center or left-of-center parties.

Finally, although the socioeconomic variables contained in H2-H7 have hitherto been utilized exclusively for the ideological component of atheism, there is reason to believe that at least one such variable—education—bears an independent effect on the prevalence of atheist identification. While the other socioeconomic factors linked to secularization allegedly function by decreasing the salience of religion in the public realm, higher education is said to weaken religiosity by promoting critical thinking about religion and exposing students to prominent nonreligious worldviews (Sherkat 2008). Furthermore, as higher education provides subjects opportunities to refine and fortify personal worldviews, educated students are likely to hold stronger positions on abstract issues such as the existence of god[s]. Moreover, their self-labels are more likely to accurately reflect their beliefs than the less educated, due to the central role of critical thinking in higher education. Stronger attitudes and well informed, preconceived self-labels should serve to discourage use of the "neutrality heuristic," or the tendency to express centrist attitudes in survey responses (Krosnick 1999). Consequently, I offer the hypothesis:

H13: Individuals with higher levels of formal education are more likely to be avowed atheists than those with less formal education.

These hypotheses are illustrated schematically in Figure 2.3, utilizing the theoretical construct introduced earlier in the chapter. Dashed lines represent core tenets of secularization theory that are well established in the literature and therefore will not be explicitly tested in the

present model (see: Norris and Inglehart 2004). However, controls will be implemented in the formal models to account for these associations, as will be discussed in section 2.4.

2.3: *Atheism in the Religious Market*

2.3.1: *Literature Review*

The rational choice supply side theory of religion is generally considered by scholars to be the leading alternative to secularization theory. In the early 1990s, a sharp rise in its academic journal publications led to the proliferation of the idea that this microeconomic approach had become the "new paradigm" in the scientific study of religion, claiming superior explanatory capacity for changes in religious identities across time (Warner 1993). Proponents often (but not always) portray the "religious economy" as a direct refutation of secularization theory (i.e. Finke and Stark 2003; for attempts at integrating the two theories, see: Pettersson 2003; Solt et al. 2011).

Religious economy theory, which advocates claim to have originated with the insight of economist Adam Smith (1776), rests on the propositions that, "[t]o the degree that a religious economy is unregulated, it will tend to be very pluralistic," and, "[t]o the degree that a religious economy is competitive and pluralistic, overall levels of religious participation will tend to be high. Conversely, to the degree that a religious economy is monopolized by one or two state-supported firms, overall levels of participation will tend to be low" (Stark 1997, 17-18; Finke and Stark 2003). Government intervention in the "religious economy" is crucial to the theory in that it [purportedly] distorts the incentives of actors in religious firms, resulting in market disequilibrium. The theory is "supply side" in that it focuses "top-down" on religious

organizations (i.e. "religious firms"), assuming constant demand for religious goods while emphasizing variations in congregational activism and appeal (Norris and Inglehart 2004, 7). According to this approach, rational individuals choose their own style of religiosity among the available options based on the respective costs and benefits perceived. This alternative "paradigm" has garnered most of its empirical support in studies of enduring religiosity in the U.S., a seemingly deviant case for the tenets of secularization theory (Zuckerman 2007).

A fundamental difference between supply side religious economy theory and secularization theory is the treatment of demand for religious goods. Secularization theorists contend that demand for religion is reduced in industrialized societies as human needs such as economic and physical security are increasingly satisfied without reliance on religious organizations or theological explanations. Supply side scholars, in contrast, argue that religious demand is essentially constant across societies and time. Fluctuations in denominational and sectarian strength are accordingly the consequences of the effectiveness of religious activism on behalf of competing firms. Supply side theorists argue that the fundamental impetus for the proliferation of religious beliefs and practices stems from the efforts of religious leaders actively seeking to gain members and maintain congregations: an endeavor catalyzed by competition between "religious firms." Competition can be thwarted by state intervention in the religious economy, which reduces the vitality of the market and hence the extent of religiosity in the population.

Several expectations arise from the application of this theory to irreligion. For one, supply side theorists directly oppose secularization theory by contending that religious pluralism strengthens the religiosity of a society (in contrast to religious economies characterized by monopolies or duopolies). This results from the increased competition in a pluralistic market of

rivaling firms. Correspondingly, supply side theorists contend that no single religious firm can meet the needs of all members of a society, and therefore the "natural" religious economy consists of a diverse set of firms competing in a positive sum game, where market niches are met by various alternative choices in the religious economy (Stark 1997; Stark and Finke 2000; Finke and Stark 2003; Witham 2010). Secondly, any government intervention in religion (GIR) is said to disrupt the equilibrium of an unregulated religious market, thereby favoring one or two "state religions" while inhibiting others. Since GIR reduces religious firms' incentives to compete over potential "consumers," any such disruption is said to induce market disequilibrium, which bears a negative impact on overall levels of religiosity (Finke and Stark 2003). In fact, supply side theorists point to government intervention in the religious economy as the principal restraint on religious pluralism (e.g. Iannaccone 1998; Stark 1999a; Stark and Finke 2000; Bainbridge 2005; Witham 2010).

Changes in the proportions of atheists across societies pose a dilemma to the supply side approach to religion because of the stable religious demand assumption. When religious participation decreases in a society, supply side theorists point to the purportedly insufficient efforts of religious leaders. The assumption of constant religious demand leads supply side theorists to posit that increases in avowed atheism are largely independent of trends in ideological atheism, the latter of which is assumed constant (Stark and Finke 2000). Instead, the avowal of atheism is said to result from the lifting of social and legal restraints previously inhibiting the expression of atheistic views (ibid.; Bainbridge 2005). The secularization of the West may be occurring in regards to the public sphere, but scholars of this tradition do not acknowledge a consequential widespread decline of personal religiosity (i.e. "believing without belonging," Davie 1994). Correspondingly, supply side rational choice theorists often implicitly

or explicitly consider atheists as potential consumers of "commodities" offered by religious firms (Iannaccone 1998; Stark 1999a).

Some recent scholarship within the supply side rational choice tradition of religious studies has deviated from the foundational framework of the religious economy approach in ways that could serve to accommodate avowed atheism in a testable theory. Jensen and Thompson (forthcoming) consider the trends of "New Age" spirituality and Neo-Pagan and Wiccan religions in the American religious market by assessing their respective membership demographics across regional religious climates in the U.S. Given the decentralized organizational structures and minimal reliance on formal leadership roles associated with these groups, the authors treat these religious identities as players in the religious market without assigning them the status of "firms." However, they find that among these flourishing religious identities, which are "differentially distributed across time and space" in contrast to typical religious firms, Neo-Pagan and Wiccan identifications are positively correlated with high levels of regional religiosity (ibid. 4). This finding is explained using Bainbridge's (1989) depiction of cults as "fringe phenomenon of conventional denominations" (289), in which such ideologies compete with more organized religions for the same pool of potential converts. New Age spirituality, on the other hand, is found to be more of a response to marketing weaknesses in conventional religions, gaining adherents who would otherwise abstain from joining any religious identity.

Jensen and Thompson's findings regarding Neo-Paganism and Wicca suggest that non-firm religious identities can compete over potential "consumers" with organized churches and effectively fill a niche in the religious market, thereby increasing pluralistic competition. The appeal of these identities is said to be the result of their simple "religio-ethical" norms and

minimal constraints on adherents' spirituality and behavior (Jensen and Thompson forthcoming, 2), both of which defy the standard doctrinal infrastructure of traditional religious organizations. To use the language of leading supply side economist Laurence Iannaccone, these decentralized and minimally organized religious identities provide members with primarily "individual" goods rather than "collective" goods, which require close-knit social interactions within a religiously homogenous community (see: Iannaccone 1998). The minimal organization and lack of behavioral constraints associated with avowed atheism similarly provide a foundation for a competitive group identity within the religious economy.

Another spin on the standard supply side religious economy approach relaxes the assumption of stable demand for religious goods and incorporates the proportion of avowed atheists as a reverse indication of religious demand in a population (e.g. Jagodzinski and Greeley n.d.; Froese and Pfaff 2005). Investigating the exceptionally high rates of self-reported atheism in East Germany, Froese and Pfaff utilize this approach to introduce the concept of "atheist competitors in the religious market," defined as: "social enterprise[s] whose principal purpose is to reduce religious demand" (2005, 414). Like religious firms, atheist competitors promote investment in "ideological capital," a consumption-related form of human capital analogous to Iannaccone's (1990) "religious human capital" (414-415). Religious human capital accumulates with individual-level contributions to religious production, as such contributions tend to increase religious outputs (e.g. congregational membership, religious knowledge, familiarity with congregational practices, etc.) (ibid.). As individuals invest more personal resources into religious participation, they increase their stock of religious human capital and thus their likelihood of future religious participation. Similarly, avowed atheists internalize an ideological system that disqualifies religious explanations, thereby investing in "a particular type of

ideological capital, a mastery and attachment to ideologies promoting atheism" (Froese and Pfaff 2005, 415).

According to this approach, the effectiveness of atheist competitors in the religious market depends on their success in (1) deterring investment in religious human capital and (2) inducing investment in atheist ideological capital. In short, "…atheist competitors find themselves in a position analogous of that to religious firms: they have to convert people to atheist ideas, involve them in some enterprise that expresses their unbelief, and sustain the commitment of atheists over time" (ibid. 414-5).

Incorporating the "atheist competitors in the religious market" postulate requires a reevaluation of the supply side approach's treatment of government intervention in the religious economy. Whereas the traditional supply side theory perceives any government intervention in the religious market to be detrimental to religiosity, it is well known that religious firms often achieve state policies of favoritism for their particular sects. These policies aim to either raise the costs of religious goods from competing firms, reduce the costs of religious goods in the favored firm, or both (Iannaccone 1994). Correspondingly, atheist competitors may seek to increase the role of government in the religious economy, but this will not necessarily have the intended effect of maximizing output. Just as religious firms often reap initial gains and long-term losses from policies of particularized benefits (Stark and Finke 2005), atheist competitors may unintentionally thwart their long-term success by overlooking the benefits of market competition and acting to suppress religious freedom.

However, Froese and Pfaff (2005) assert that the success of atheist competitors in the religious economy requires the suppression of religious freedom (415). The authors do not consider the role of market competition in affecting rates of atheism, despite the centrality of

inter-firm competition in supply side religious economy theory. Instead, they employ a different reasoning:

> "…under what conditions will atheist competitors succeed in persuading a people to abandon religion? The religious economies approach assumes that if actors are free to choose among a range of secular and religious ideologies, they will tend to create a "mixed ideological portfolio." That means they adopt the ideological conservatism of Pascal's wager; even if they embrace many scientific or rationalist ideas, they will not readily exclude religious ones…Therefore, atheism will become a convincing alternative to religion for most people only when religious freedom is suppressed and they are convinced of the necessity of making an exclusive ideological commitment to atheism." (415)

This logic is problematic for the supply side approach for at least two reasons. First, atheism is not analogous to "scientific or rationalist ideas," as it does not maintain a monopoly over science or rationality. Adopting scientific ideas does not require holding ideological investments in atheism. Froese and Pfaff (ibid.) assume that consumers will embrace some non-theological elements of atheism and theological ideas of theism as a result of Pascal's wager, but offer no explanation for why the rational action would not exhibit the converse relationship: accepting some non-theological ideas from religion (e.g. moral codes) and atheism's rejection of supernatural explanations (e.g. "cultural religion"). Since "irreligious goods" are posited to hold subjective values comparable to religious goods (Bainbridge 2005, 439-440; Stark and Finke 2000), the authors fail to consider the potential for individuals to incorporate atheistic worldviews within their "mixed ideological portfolios."

Second, Froese and Pfaff (2005) assert that religious freedom must be "suppressed" in order for atheistic firms to compete, but this contradicts their analogy of atheistic "firms" competing with religious firms, both of which should flourish under conditions of market competition. Their inclusion of atheistic actors in the religious market suggests that the same economic principles that apply to religious firms should similarly apply to atheist competitors. For instance, restrictions on inter-firm competition allegedly decrease the total output of the

religious economy as a result of nonmarket incentive structures interfering with the equilibrium distribution of religious goods. However, if we are to broaden the scope from the strictly religious economy to one which includes atheistic competitors, as Froese and Pfaff do, the same economics principle should apply to irreligious goods. As Stark and Finke explain: "[r]ather than eroding the plausibility of all faiths, competition results in eager and efficient suppliers of religion, just as it does among suppliers of secular commodities, and with the same results: far higher levels of overall 'consumption'" (2000, 36).

Atheistic actors in the religious economy have received substantial attention in recent years, particularly with the rise of "New Atheism" in the early 21st Century. The New Atheism movement was launched by avowed atheist authors from Great Britain and the U.S. who promoted activism and candid self-expression on behalf of atheists. The result has been the creation of an "imagined secular community" where "[t]he weak ties that comprise the secularist community in the United States allowed discussion and interaction on the new atheism, creating an atmosphere encouraging nontheists to be more outspoken and involved in group activity with like-minded freethinkers" (Cimino and Smith 2011, 31). Biologist David Sloan Wilson has referred to the New Atheism as a "stealth religion" due in part to its activist goals within the religious economy (Wilson 2007).

The New Atheism movement reflects a growing social identity for nonbelievers, particularly among young, educated males in the West who utilize online resources to reinforce their group identity through networking and discourse (Sherkat 2008; Sproull and Faraj 1997; Foust 2009). This group is often associated with antireligious sentiments, as observed by Whitley (2010) in the statement: "New Atheists draw little distinction between religions and denominations, perceiving all to be unsavory manifestations of delusional beliefs (191). This

movement appears to satisfy the criteria for an irreligious "firm" or an atheistic non-firm competitor in the religious marketplace.

2.3.2: *Theory*

Unlike secularization theory, the core propositions of religious economy theory have not acquired widespread empirical support in cross-national studies. In fact, much of the scholarship in the religious economy literature utilized flawed statistical measures of religious pluralism which, when corrected, failed to demonstrate supportive evidence for the theory (Chavez and Gorski 2001; Norris and Inglehart 2004, 12-13). Furthermore, the expectations of religious economy theory directly contrast those of secularization theory in regards to religious pluralism's effect on religiosity. Therefore, an empirical reevaluation of the central tenets of this theory must precede further inquiry. The following hypotheses formalize the theory's principal expectations regarding essential forces in the religious market (see: Stark 1997):

H14: To the degree that a religious economy is unregulated by government, it will tend to be highly pluralistic.

H15: To the degree that a religious economy is pluralistic, overall levels of religiosity will tend to be high.

Supply side theorists treat avowed atheism in various ways. The primary divide across supply side conceptualizations of atheism distinguishes theories that maintain the original assumption of stable demand for religious goods (Iannaccone 1998; Stark 1999a, 1999b; Stark

and Finke 2000; Young 1997; Witham 2010) from those which relax this assumption and treat atheism as an inverse indicator of inconstant religious demand (Froese and Pfaff 2005; Jagodzinski and Greeley n.d.; Bainbridge 2005). Theoretical work in the former category typically explains the observed increase of Western atheistic expression as a consequence of greater freedom for religious dissent in public life (e.g. Stark 1999a, 52). According to this perspective, the prevalence of atheistic identification should increase upon the removal of legal and social prohibitions against irreligious expression (Stark 1999a, 52-53). However, since government intervention in the religious economy (GIR) is expected to decrease the vitality of religion in society, it follows that GIR should also bear a direct relationship with the proportion of those holding atheistic worldviews, given that theistic beliefs are promulgated by religious institutions. This variant of supply side theory leads to the following hypotheses:

> **H16**: Atheist self-identification is more common in societies with low levels of government intervention in the religious economy.
>
> **H17**: Government intervention in the religious economy tends to increase the proportion of individuals holding atheistic worldviews.

Advocates of the alternative supply side approach, which treats atheism as an inverse indicator of religious demand, typically conceive of atheism as analogous to an "irreligious firm," or an actor in the religious market that competes with religious firms over a common consumer population (i.e. Froese and Pfaff 2005). Since religious economies tend to cultivate diverse sects when left unregulated (according to theory), atheism as a group identity can be said to fill its own niche in the religious market, appealing particularly well to unmarried, highly educated men without children (see: Bainbridge 2005, 12-13). Correspondingly, unavowed

atheists (those without belief in god[s] who do not identify as atheists) represent a lack of religious demand. Accordingly, the factors posited to affect the performances of religious firms should similarly affect the performance of irreligious firms. Furthermore, given that the subjective value of irreligious goods is conditioned by individuals' uncertainty about the existence of god (Sherkat 2008, 440; Bainbridge 2005), and that the proliferation of group identities in the religious economy relies on supply side activism from competing firms, the influence of atheistic actors upon nonbelievers should correlate with the vitality of competition in the religious market. This application of theory requires empirical validation of the following hypotheses concerning the core tenets of supply side religious economy theory:

> **H18**: The extent of religious pluralism in a given society is negatively correlated with rates of unavowed atheism.
>
> **H19**: The extent of religious pluralism in a given society is positively correlated with rates of avowed atheism among nonbelievers.

These hypotheses are incorporated into the basic model of atheist identity formation, as illustrated in the schematic diagram of Figure 2.4 (see Appendix).

Catholicism and Atheism

Recent scholarship drawn from various sources of survey evidence suggests the presence of a direct correlation between irreligiosity and personal experience with the Roman Catholic Church. For instance, Pasquale (2010) demonstrates that formerly [Roman] Catholic secular group affiliates are more likely to hold antipathetic views towards the role religion plays in the

world than their counterparts from all other religious traditions. The former Catholics in Pasquale's study also reported the highest levels of anger towards religion, the highest rates of "anti-religious" self identifiers, the most anger about religion, the greatest desire to counteract religion in society, and the most reported interpersonal conflicts involving religion.

The Roman Catholic Church has likely weakened as a result of controversial issues relating to sex. The international sex scandals perpetrated by Catholic priests and covered up by higher ranking authorities were unveiled during the 1990s and 2000s, leading to the formal and informal disaffiliations of many Catholic churchgoers in the U.S. and the U.K. (Seifert 2012). As Altemeyer & Hunsberger (1997) argue, the scandals served as a catalyst for disaffiliation to those with relatively weak beliefs in the infallibility of Church doctrine. In contrast, the departure of the most active, "properly raised" Catholics during the 1990s was more often the result of "alienating teachings about gender and sex" (ibid., 108). The Vatican's strict conservative positions on issues such as homosexuality, reproductive rights, and gender equality are more rigid than those found under the umbrella of Protestantism or nondenominational Christianity, and thus arouse a more concise conception of "religion" for nonbelievers to explicitly oppose.

Each of these correlations suggests that nonreligious individuals living in predominantly Catholic societies are especially likely to identify as atheists. Figure 2.1 in the Appendix reveals that, of the nineteen countries in the data series with Catholics comprising at least 30% of the population, thirteen demonstrate higher proportions of atheist identifiers among the nonreligious than the average rate among all thirty countries. Figure 2.2 corroborates the likelihood of a positive correlation between Catholic prevalence and the avowal of atheism, suggesting a linear trend at the country-level. This potential correlation may be due in part to an ideological clash

between the fervently anti-authoritarian worldviews shared by many avowed atheists and the stern, often authoritarian hierarchical structure of the historical Roman Catholic Church (Bréchon 2003; Galan 2009; Hunsberger and Altemeyer 2006). The observed political liberalness of most atheists likely serves to intensify a sentiment of irreligiosity among former Catholics (Bréchon 2003). At the macro-level of analysis, Kaufmann and colleagues (2011) show that European religiosity is decreasing most rapidly in Catholic countries.

Although these considerations do not reflect any apparent inferences from the major theories on religious change in society, their potentially significant impact upon the secularization process compels the incorporation of this chapter's final hypothesis:

> **H20**: Societies with higher proportions of Catholics tend to include higher rates of avowed atheism among nonbelievers than societies with lower proportions of Catholics.

A summary of these hypotheses, including specifications of all independent and dependent variables, as well as the anticipated empirical results of the models below, can be found in Table 2 of the Appendix.

2.4: *Methods, Models, and Data*

Methods:

The above hypotheses aim to explain differences between individuals within a society as well as macro-level differences across societies. Any survey data employed for the empirical testing of the hypotheses is inherently structured by countries and years, given the likelihood of

systematic country-item bias and societal changes over time (Stegmueller 2011). The most appropriate statistical method for confronting these mutually corresponding levels of analysis is that which best utilizes and accounts for the hierarchical clustering of the data. To identify the optimal model type for the research questions presented above, it is necessary to first examine the several possible ways of analyzing clustered multilevel data in political science.

The simplest approach, sometimes called "naïve pooling" (Burton et al. 1998), is to ignore group clustering and pool all data into a single group, treating intercepts and coefficients as fixed across groups. Group level variables are incorporated by calculating the group means and assigning those values to all individuals in the respective groups. However, this method is especially prone to information loss and is increasingly rejected by researchers who recognize clustering within their data (Sutton 2008). Statistically, the use of data with values duplicated across many observations (i.e. group level means) is susceptible to higher intra-class correlations, which tend to yield artificially low standard errors and thereby Type I errors in the resulting inferences (Steenbergen and Jones 2002, 220; Beck and Katz 2007, 187). In addition, these models fail to incorporate random error at higher levels of analysis (i.e. groups). By assuming zero error at the group level, this approach implies that group level predictors fully explain intergroup differences. Such an assumption is typically unwarranted and often problematic for coherent interpretation of a model's results. Furthermore, naïve pooling assumes that all observations are independent of one another. Conceptually, group clustering in the social sciences implies that cross-national data is more structured than data consisting of truly independent observations. As Kreft and De Leeuw (1998) state, "…the more individuals share common experiences due to closeness in space and/or time, the more they are similar, or to a certain extent, duplications of each other" (9).

Alternatively, researchers can perform different OLS regressions for each group in the data. This approach estimates parameters independently for each group cluster, making it difficult to compare any variables of interest in a meaningful, encompassing fashion. In addition, information about the relative strengths of slope parameter estimates is lost when the data is partitioned in such a way, as no parameters can account for the extent of variations in slope estimates across groups.

A commonly used "quick fix" for these methodological shortcomings pools the group clusters and attempts to absorb intergroup variance with a series of dummy variables representing each macro cluster (or, when the model contains a constant, one group is designated the baseline category and lacks a dummy variable (Steenbergen and Jones 2002, 220)). The dummy variable approach holds the potential to capture group clustering in the data, but it is unable to account for the differences across groups. Therefore, this approach is inadequate for assessing "causal heterogeneity," a major objective of multilevel statistical analysis (ibid.).

Fortunately, social scientists have developed and improved multilevel hierarchical models since the seminal methodological work of John E. Jackson (1992). Hierarchical linear models (HLM) provide methods for including predictors at various levels of analysis while accounting for error at each level. Furthermore, these models can readily incorporate cross-level interactions and group nesting without sacrificing information from the composite structured data. By measuring and accounting for variance at each level, HLMs estimate causal heterogeneity in the hierarchical context of the data. In sum, an HLM strikes an attractive compromise between naively pooled models and collections of models pertaining to each respective subgroup in a hierarchical dataset.

Although such hierarchical models are statistically amenable to classical (i.e. frequentist) likelihood-based methods of estimation, some comparative political scientists have found such methods problematic for at least two reasons. First, classical methods demand that the data employed derives from a repeatable procedure with a known probability process (Sutton 2008; Western and Jackman 1994). Inferences drawn from these methodologies rely on test statistics that describe parameters such as *p* values of estimated coefficients, which indicate the probability of obtaining a value at least as extreme as the parameter estimate over a long series of repeated samples. This "repeated sample logic" is conceptually warranted for controlled experiments, coin flips, and large population surveys. However, it is less meaningful when samples are finite and not replicable, such as the sample of thirty countries at the third level of this model. In instances such as this, the data series does not represent random observations from a substantially larger population of countries.

In the same vein, the second problem with using classical methods for hierarchical models is that the samples used by social scientists are often overwhelmed by complex models (Seltzer, Wong and Bryk 1996). Even though the numbers of countries (30) and country-years ($\geq$106) in the dataset used for this analysis are relatively large for a comparative politics analysis, the sample seems incredibly small for the model at hand, which requires the estimation of hundreds of parameters, hyperparameters, and their variances.

Fortunately, both dilemmas can be solved with Bayesian inference. While frequentist estimation presumes that data are random and parameters are fixed, but unknown, Bayesian estimation considers the data to be fixed and the parameters to be random draws from a probability distribution (Gill 2007; Jackman 2009). Repeated sampling logic therefore does not

apply to Bayesian estimation. In addition, modern Bayesian techniques can readily estimate highly complex models that may be impossible to fit using frequentist statistics (Lynch 2007).

The frequentist approach's reliance on repeated sample logic is problematic not only for conceptual reasons, it can also lead comparativist researchers to commit type I errors when drawing inferences. In a recent AJPS article, Stegmueller (2013) carries out a side-by-side analysis of Bayesian and frequentist hierarchical models in effort to identify the bias of estimates drawn from each approach. The author contrasts the approaches across varying macro-level sample sizes, ranging from five to thirty, thereby representing sample sizes typically used in the multilevel models of comparative politics. Further, Stegmueller revisits the Steenbergen and Jones' (2002) fourteen-country hierarchical model predicting support for the European Union. By contrasting the [frequentist] results presented in the authors' original research with corresponding Bayesian results obtained using identical data, Stegmueller (2013) uncovers substantial differences between the two contending methodological approaches. Although the larger macro-level samples (those closer to thirty than five) result in similar parameter estimates across the two approaches, Bayesian modeling consistently outperforms its frequentist counterpart across all sample sizes tested.

In particular, the Bayesian multilevel models result in more rigorous tests of parameter confidence intervals, yielding more conservative estimates than frequentist models. The more conservative confidence intervals estimated with the Bayesian approach are also more stable across various sample sizes tested by Stegmueller (ibid. 21-27). Frequentist models are found to estimate confidence intervals too narrowly, which could potentially lead to the unwarranted rejection of a null hypothesis. In fact, Stegmueller finds that Steenbergen and Jones (2002) reject at least two null hypotheses that a Bayesian approach would fail to overturn. These

findings lead Stegmueller to make the claim, "…researchers using Bayesian multilevel models put their hypotheses to more rigid tests than their colleagues relying on [maximum likelihood] estimates" (27).

A common Bayesian approach in comparative social sciences uses Markov chain Monte Carlo (MCMC) simulation with the Gibbs sampler algorithm to select estimates of the parameters randomly from a pre-defined parameter space. With each draw from the Gibbs sampler, the MCMC algorithm compares the estimate to the observed data and updates the parameter estimates accordingly. The Gibbs sampler begins with all parameters set to random values, then draws random estimates for level-1 coefficients from a prespecified distribution, which is conditioned by both higher-level predictors and the observed data. The sampler then draws random estimates for the level-2 coefficients, which are conditioned by the new level-1 parameter estimates as well the higher-level predictors and the observed data (Gelman et al. 2004). Iterations continue until the sampler exhausts the parameter space and converges on a stable set of estimates. This is evident when multiple chains with different initial values converge along a common range. Once convergence is reached, the sampler runs for the number of iterations desired before estimates of the posterior distributions are recorded.

Models

Operationalization of this dissertation's empirical predictions will require several variations of an HLM comprising up to four hierarchically nested levels: (1) individual, (2) country-year, (3) country, and (4) a dichotomous level indicating whether or not a country was formerly ruled by a communist government. For testing hypotheses anticipating trends at the

macro level of analysis, models will use only levels 2 through 4, given that the dependent variable must be at the lowest level in an HLM. These models will account for cross-national differences in socioeconomic population demographics by using the respective country-year means as controls. Otherwise, all models will follow the formal structure described below, which pertains specifically to the four-level variant used to test H6 and H7. In total, the dissertation will employ twenty-two variations of this archetype formal model: nine for this chapter and thirteen for Chapter 3. For a complete listing of the models used for testing each hypothesis, see Table 2.01 in the Appendix.

Construction of an HLM begins with the simple level-1 model:

$$y_{ijkl} = \beta_{0jkl} + \beta_{1jkl} x_{ijkl} + (\dots) + \varepsilon_{ijkl} .$$

Here y_{ijkl} represents the level-1 dependent variable for an individual i (=1,…N_i) nested in a level-2 unit (country year) j, nested in a level-3 unit (country) i, nested in a level-4 unit (past communism) l. A level-1 predictor is represented by x_{ijkl} and the level-1 error term is denoted ε_{ijkl}. The only difference between this model and a simple regression model is that this method allows regression parameters to vary across higher level units, as indicated by the *jkl* subscripts on the parameters β. This attribute allows for the modeling of the variance of level-1 regression parameters (β) as a function of predictors at higher levels of analysis, as evident in the level-2 "micro models":

$$\beta_{0jkl} = \gamma_{00kl} + \gamma_{01kl} z_{jkl} + \varphi_{0jkl}$$

$$\beta_{1jkl} = \gamma_{10kl} + \varphi_{1jkl}$$

(…)

Together, these two equations comprise a complete level-2 model. The φ-parameters represent disturbances at the second level, thereby freeing the model from the imprudent assumption that the level-2 predictor (z) contains all of the variance in the level-1 parameters.

By substituting these equations into the level-1 formula, the first two levels of this basic four level model can be expressed with the single equation:

$$y_{ijkl} = \left(\gamma_{00kl} + \gamma_{01kl}z_{jkl} + \varphi_{0jkl}\right) + \left(\gamma_{10kl} + \varphi_{1jkl}\right)x_{ijkl} + \varepsilon_{ijkl}$$

$$= \gamma_{00kl} + \gamma_{01kl}z_{jkl} + \gamma_{10kl}x_{ijkl} + \varphi_{0jkl} + \varphi_{1jkl}x_{ijkl} + \varepsilon_{ijkl}$$

Here the intercept is denoted as γ_{00kl} and the effect of the level-2 predictor is γ_{01kl}. The effect of the level-1 predictor is the sum of γ_{10kl}, calculated for each country k, and a country-year level disturbance term, φ_{1jkl}. Disturbance in the model comprises the three random parameters: (1) φ_{0jkl}, the residual level-2 variance of the level-1 intercept after controlling for z_{jkl}; (2) φ_{2jkl}, the residual level-2 variance in the level-1 slope (β_{1jkl}) after controlling for z_{jkl}; and (3) ε_{ijkl}, the level-1 variance, including that of omitted level-1 predictors, measurement error in y_{ijkl}, and any remaining level-1 noise. Thus the φ's represent parameter noise of the β's whereas ε_{ijkl} captures the total level-1 noise.

Parameterizing the third and fourth levels of this model requires repeating the process employed to construct the second level. Before defining these parameters, however, the first two levels will be expanded to include the respective predictors employed in the model used for this analysis. The complete level-1 model is as follows:

$$y_{ijkl} = \alpha_{0jkl} + \beta_{100l} AGE_{ijkl} + \beta_{2jkl} FEMALE_{ijkl} + \beta_{3jkl} MARRIED_{ijkl} +$$
$$\alpha_{1000} EDUC_{ijkl} + \alpha_{2000} INCOME_{ijkl} + \alpha_{3000} CHILDREN_{ijkl} +$$
$$\alpha_{4000} URBAN_{ijkl} + \varepsilon_{ijkl}$$

$$\varepsilon_{ijkl} \sim N(0, \sigma^2)$$

Here, α_{0jkl} is the intercept, which is randomized across each of the higher levels, as declared by the *jkl* subscript. β_{100l}, which denotes the effect of our first predictor, age, is allowed to vary at only the highest level of analysis, former communism. Therefore, there will be two different values for this coefficient in the model's estimation: one for individuals living in formerly communist countries and another for those living in countries that were never ruled by a communist government. The slopes for the female predictor (β_{2jkl}) are randomized at the country-year level, calculated for each of the second level clusters *j* at the second level. The slopes for the effect of marital status (β_{3jkl}) follow the same pattern. The alpha coefficients denoting the effects of education, income tertile, number of children, and urbanism are fixed across all clusters in the data series.

The dependent variable, y_{ijkl}, will differ across several variants of the model. In this chapter, the four level models testing H6 and H7 will be used to predict two different indicators of irreligiosity at the individual level: (1) lack of god belief and (2) atheist self identification. All other hypotheses in this chapter will predict a dependent variable at the country-year level and are discussed below. In Chapter 3, H1-H8 will utilize this model with unique dependent variables, each of which reflects an aspect of individuals' political ideology and/or behavior (see Table 3 in the Appendix).

The second level of our model comprises three micro models:

$$\alpha_{0jkl} = \gamma_{00kl} + \beta_{01kl}INEQ_{jkl} + \beta_{02kl}YEAR_{jkl} + \gamma_{0100}GDPPC_{jkl} + \gamma_{0200}GIR_{jkl} + \gamma_{0300}SOCWEL_{jkl} + \gamma_{0400}PCATH_{jkl} + \gamma_{0500}RELIG_{jkl} + \gamma_{0600}CULTREL_{jkl} + \varphi_{0jkl}$$

$$\beta_{2jkl} = \beta_{21kl} + \varphi_{2jkl}$$

$$\beta_{3jkl} = \beta_{31kl} + \varphi_{3jkl}$$

$$\varphi_{0jkl} \sim N(0, \tau_{\alpha 0}) \qquad \varphi_{2jkl} \sim N(0, \tau_{\beta 2}) \qquad \varphi_{3jkl} \sim N(0, \tau_{\beta 3}) \qquad Cov\,(\varphi_{0jkl}, \varphi_{2jkl}, \varphi_{3jkl}) = 0$$

In the first of these equations, the intercept γ_{00kl} is randomized at the third and fourth levels, and the effects of income inequality (β_{01kl}) and time (β_{02kl}) are modeled at the third and fourth levels. The remaining predictors in this equation are fixed across groups. In the subsequent two equations, the effects of gender (β_{2jkl}) and marital status (β_{3jkl}) each comprise an intercept that may vary at the third and fourth levels (β_{21kl} and β_{21kl}), and a disturbance term (phi), which varies by country year and is expected to follow a normal distribution (see Bayesian Estimation section below).

The level-3 equation contains five micro models:

$$\gamma_{00kl} = \pi_{000l} + \pi_{0010}RELPLUR_{kl} + \delta_{00kl}$$

$$\beta_{21kl} = \beta_{210l} + \delta_{21kl}$$

$$\beta_{31kl} = \beta_{310l} + \delta_{31kl}$$

$$\beta_{01kl} = \beta_{010l}$$

$$\beta_{02kl} = \beta_{020l}$$

$$\delta_{00kl} \sim N(0, \tau_{\gamma 00}) \quad \delta_{21kl} \sim N(0, \tau_{\beta 21}) \quad \delta_{31kl} \sim N(0, \tau_{\beta 31}) \quad \delta_{01kl} \sim N(0, \tau_{\beta 01}) \quad \delta_{02kl} \sim N(0, \tau_{\beta 02})$$

$$Cov\,(\delta_{00kl}, \delta_{21kl}, \delta_{31kl}) = 0$$

In the first of these equations, we include an intercept that varies at the fourth level (π_{000l}) and a single fixed effect, π_{0010}, which incorporates the impact of religious pluralism. This fixed effect is a constant slope across third- and fourth-level clusters (countries and former communism status, respectively). Although this variable was originally coded by country-year, about eighty percent of the countries under analysis contain just one value in the "religious fractionalization" data constructed by Alesina and colleagues (2003). Since the country-year level data adds little value to the model and threatens to distort the predicted effect by incorporating changes over time for a small proportion of countries, all values within the duration considered (1981-2009) are averaged by country and utilized as country-level data.

Lastly, the level-4 model contains the following six micro models:

$$\pi_{000l} = \lambda_{0000} + \mu_{000l}$$

$$\beta_{100l} = \lambda_{1001} + \mu_{100l}$$

$$\beta_{210l} = \lambda_{2100}$$

$$\beta_{310l} = \lambda_{3100}$$

$$\beta_{010l} = \lambda_{0100} + \mu_{010l}$$

$$\beta_{020l} = \lambda_{0200} + \mu_{020l}$$

$$\mu_{000l} \sim N(0, \tau_{\gamma 000}) \qquad \mu_{100l} \sim N(0, \tau_{\beta 100}) \qquad \mu_{010l} \sim N(0, \tau_{\beta 1}) \qquad \mu_{020l} \sim N(0, \tau_{\beta 2})$$

$$Cov\,(\mu_{000l}, \mu_{100l}, \mu_{010l}, \mu_{020l}) = 0$$

As can be seen, the intercept γ_{000l} varies by former communist status and is centered around the grand mean, λ_{0000}. Similarly, the slope predicting the effect of age, β_{100l}, varies across level-4 groups and is centered around its mean, λ_{1001}. Country-year predictors with random slopes at the fourth level include income inequality (β_{010l}) and year (β_{020l}).

Taken together, the complete 4-level HLM is as follows:

$$y_{ijkl} = (((\lambda_{0000} + \mu_{000l}) + \pi_{0010} RELPLUR_{kl} + \delta_{00kl}) + ((\lambda_{0100}) + \delta_{01kl})INEQ_{jkl} +$$
$$((\lambda_{0200}) + \delta_{02kl})YEAR_{jkl} + \gamma_{0100} GDPPC_{jkl} + \gamma_{0200} GIR_{jkl} + \gamma_{0300} SOCWEL_{jkl} +$$
$$\gamma_{0400} PCATH_{jkl} + \gamma_{0500} RELIG_{jkl} + \gamma_{0600} CULTREL_{jkl} + \varphi_{0jkl}) + (\lambda_{1001} +$$
$$\mu 100lAGEijkl + (((\lambda 2100) + \delta 21kl) + \varphi 2jkl) FEMALEijkl + (((\lambda 3100) + \delta 31kl) +$$
$$\varphi 3jkl)\, MARRIEDijkl + \alpha 1000EDUCijkl + \alpha 2000INCOMEijkl$$
$$+ \alpha_{3000} CHILDREN_{ijkl} + \alpha_{4000} URBAN_{ijkl} + \varepsilon_{ijkl}$$

$$= \lambda_{0000} + \pi_{0010}RELPLUR_{kl} + \lambda_{0100}INEQ_{jkl} + \lambda_{0200}YEAR_{jkl} + \gamma_{0100}GDPPC_{jkl} +$$
$$\gamma_{0200}GIR_{jkl} + \gamma_{0300}SOCWEL_{jkl} + \gamma_{0400}PCATH_{jkl} + \gamma_{0500}RELIG_{jkl} +$$
$$\gamma_{0600}CULTREL_{jkl} + \lambda_{1001}AGE_{ijkl} + \lambda_{2100}FEMALE_{ijkl} + \lambda_{3100}MARRIED_{ijkl} +$$
$$\alpha_{1000}EDUC_{ijkl} + \alpha_{2000}INCOME_{ijkl} + \alpha_{3000}CHILDREN_{ijkl} + \alpha_{4000}URBAN_{ijkl} +$$
$$\varepsilon_{ijkl} + \varphi_{0jkl} + \varphi_{2jkl}FEMALE_{ijkl} + \varphi_{3jkl}MARRIED_{ijkl} + \delta_{00kl} + \delta_{01kl}INEQ_{jkl} +$$
$$\delta_{02kl}YEAR_{jkl} + \delta_{21kl}FEMALE_{ijkl} + \delta_{31kl}MARRIED_{ijkl} + \mu_{000l} + \mu_{100l}AGE_{ijkl}$$

Unlike frequentist statistics, the Bayesian approach requires the specification of prior beliefs about distributions the parameters are expected to follow. For this model I assume that y_{ijkl} follows a normal distribution and is linearly conditioned by a group of predictors x_{ijkl}:

$$y_{ijkl} \sim N(\hat{y}_{ijkl}, \sigma_i^2)$$

$$\hat{y} = x_{ijkl}\beta_{jkl}$$

Variance parameters at each level are given uninformative priors with gamma distributions. All other parameters and data nodes are given uninformative normal distributions. A key advantage of using normal distributions for the priors is the self-conjugacy of the Gaussian distribution family. In other words, the posterior and prior can both follow normal distributions and the model should still converge to 1, i.e. remain proper. Gamma distributions are similarly self-conjugate. Conjugacy is also important for drawing inferences pertaining to marginal and hyperprior distributions, or those affected by other parameters within the model.

There are several formal assumptions implicit in any Bayesian multilevel model. This dissertation is not intended to provide an exhaustive account of the complex mathematics required for Bayesian inference. For an extensive description of applied Bayesian MCMC modeling, see: Gelman 2007; Gelman et al. 2003; Jackman 1999; and Lynch 2007. This research endeavor adheres to Scott Lynch's (2007; Chapter 9) basic formal assumptions concerning disturbances and their covariances in hierarchical linear models (see also: Choi and Seltzer 2010). For the complete OpenBUGS program constructed for running this model, please contact the author.

***Data**:*

Data for measuring religiosity and irreligiosity, as well as general demographic characteristics at both the micro and macro levels, will derive from an integrated dataset containing the four waves of the European Values Study, conducted in 1981, 1990, 1999, and 2008, as well as five waves of the World Values Survey, carried out in 1981, 1990, 1995/1998, 1999/2000, and 2005/2008. The World Values Survey Association provides longitudinal files for all waves of each survey online, as well as instructions for merging the EVS and WVS longitudinal databases. Defining "Western" nations according to Huntington's (1996) classification, and excluding country-years with less than 800 observations, the resulting data include 173,555 observations from 30 Western societies in 129 country-years. These include 39 country-years from nine formerly communist nations (see Table 1 in the Appendix for a complete list of countries represented). Due to missing data, the *n* for each model will be less than the total number of observations employed collectively ($n \sim$ 104,000-168,000; J=106-127 (country years)). All data will derive from this series unless otherwise specified below.

Dependent Variables:

This model will serve as the basis for testing all twenty hypotheses of this chapter. Moreover, as the series of hypotheses collectively predict three different dimensions of irreligiosity (*NB*/*S*, *AA*/*S*, and *AA*/*NB*), and several additional attributes of religion and secularization at both the micro and macro levels, ten different dependent variables are employed in ten variants of the model. For a list of the independent and dependent variables used for testing each respective hypothesis, see Table 2 in the Appendix.

H1 through H5, H9, and H17 will utilize the expression of atheistic beliefs at the societal level (*NB*/*S*) as the dependent variable. H6 and H7 similarly concern predictions about the ideological component of atheism, but do so at the individual level. Therefore, the model testing these hypotheses utilizes a dichotomous dependent variable measuring whether or not one expresses disbelief in God. While the four level models maintain the dichotomous valuing of the dependent variable, the three level models rescale all dependent variables to fit a 0-1 range.

The secularization index ($r = 0.012$) used as the dependent variable for H8 and the independent variable for H1 mirrors that constructed in theory by Halman and Pettersson (1999) and substantiated methodologically in subsequent publications (e.g. Halman and Pettersson 2001; Pettersson 2003). This index consists of two items from the WVS/EVS survey instrument: (1) country-year means of the importance of God in respondents' lives, and (2) country-year means for the degree of confidence individuals hold in the nation's churches, both of which are reversed to indicate increased secularity across the range of possible values. H11, H12, H19, and H20 require a continuous dependent variable indicating the prevalence of avowed atheism among those lacking belief in God. Avowed atheism describes those who describe themselves as

"convinced atheists" when given that option alongside "not a religious person" and "religious person" (WVS/EVS 2011). Furthermore, the 468 self-defined atheists in the dataset who profess belief in god(s) (less than 6% of all "convinced atheists") are dropped from the data series. Theistic atheism is a logical paradox and those who claim it have no place in either theoretical paradigm.

H10 and H16 anticipate a continuous variable: the prevalence of avowed atheism in society. Similarly, H18 predicts the societal prevalence of unavowed atheism, as indicated by a lack of god beliefs in concurrence with the absence of an atheist identity. H13 predicts the identity component of atheism at the individual level, thus mandating the use of a dichotomous dependent variable measuring avowed atheism. The dependent variable for H14 consists of the religious fractionalization index as calculated by Alesina et al. (2003), which includes a country-level index value for each country analyzed here based on data from 2001 (see: Solt et al. 2003).

The additive religiosity index (Cronbach's alpha = .88) used as the dependent variable in H15 and the independent variable in H11 consists of ten items from the WVS/EVS data. These include six dichotomous items, three of which indicate belief in heaven, hell, and afterlife, and three indicating whether the respondent: belongs to a religious denomination, prays or meditates, and/or receives comfort from religion. The remaining four items include a ten-point scale gauging the importance of God in the respondent's life, a four-point scale measuring the importance of religion in the respondent's life, a four-point scale measuring confidence in churches, and finally, an eleven-point scale gauging self-reported frequency of church attendance (annually). The non-dichotomous index items are rescaled to a range of 0-1 in order to ensure equal weights for each item (see Appendix for alpha values). Each item has a minimum of 138,703 non-missing observations. Missing values for respondents who report observations for

at least one of the items are replaced by the respective mean for each item. Respondents with missing data for all ten items are dropped from the sample. After summing, the index scores are standardized at the level of analysis in which they are implemented in the model and rescaled to a 0-1 range.

Independent Variables

As noted in the previous section, three independent variables will mirror those used as dependent variables for the testing of other hypotheses. These include the secularization index (H1), the religious fragmentation index (H8, H9, H15, H18, H19), and the religiosity index (H11). Variables constructed for testing the remaining hypotheses are described below.

Measures of national urbanization (H4) and social welfare spending totals (H2) derive from annual datasets provided by the IMF and World Bank, respectively. The "Standardized World Income Inequality Database" (SWIID) provides the most accurate national-level Gini coefficients available (H3) for most countries in the world, including all of those analyzed here (Solt 2009; Solt et al. 2011). Regarding the seven country-years under analysis for which the SWIID does not include, Gini coefficients from the nearest year(s) are substituted, taking the mean when available data includes observations equidistant from the target year. GDP per capita data (H5) derives from the Penn World Table (PWT), Version 7.0 (Heston et al. 2011). The models will employ the PWT variant of this measure entitled "rgdpl," or "purchasing power parity converted GDP per capita, derived from growth rates at c, g, i, at 2005 constant prices," as used by Solt and colleagues (2011). Individuals' economic standing in society (H6) is measured using household income tertiles, similar to the quintiles computed by Solt and colleagues (2003) but capturing a greater proportion of the available data by reducing the number of ordinal values

to three, thereby allowing for the incorporation of an additional survey item from the WVS/EVS data.

Education (H7, H13) is measured according to the self-reported ages at which the WVS/EVS respondents completed their formal education. This variable is consolidated into eighteen categories in order to reduce the positive skew of the data distribution. The indicator denoting cultural religion (H10) comprises observations from two WVS/EVS responses: (1) denominational affiliation, and (2) the importance of religion in [respondent's] life. Those who claim a religious affiliation and consider religion to be "not at all important" or "not very important" are considered culturally religious. Respondents who do not claim a religious affiliation and/or describe religion as being "rather important" or "very important" are coded as lacking cultural religion. This variable is constructed using Boolean algebra at the individual level to derive level-2 (country-year) means, which are employed in all models of this chapter as either controls or independent variables.

H14, H16, and H17 require data measuring the extent of government intervention in the religious economy (GIR), for which I will use Jonathon Fox's "Religion and State" (RAS) dataset (2008). Missing values are substituted by those from the nearest country year for which data is available. H20 will employ the [standardized] proportion of respondents who identify as Catholics as the independent variable.

H12 requires an independent variable indicating the political strength of right-of-center parties. For twenty-nine of the thirty countries in the data series, this variable consists of country-year level values measuring the ideological complexion of government and parliament (CPG), as calculated by Woldendorp and colleagues (2011). This indicator of party control utilizes a five-point ordinal scale to categorize governments according to proportion of seats held

by left, center, and right parties, respectively. CPG values are missing for the ten country-years in which governments were controlled by one-party communist regimes, and observations from those years are removed from the sample in the respective model. In country-years that witness a change in the CPG, the value reflects the government on June 30th of the respective year. All country-years in the sample earn CPG values ranging from two to four, thereby comprising a trichotomous index. For the U.S.—the only political system missing from the data series—this index is substituted by a measure of party control of the House of Representative, the Senate, and the presidency. Divided governments receive a score of three while governments with a single party controlling all three bodies are scored as two (Democratic Party control) and four (Republican Party control), respectively. As with all other independent variables, CPG values are standardized and centered around the mean.

Controls

Controls in the model include a level-4 dichotomous variable indicating whether or not the government was formerly communist. A history of communist rule may affect measures of religiosity and irreligiosity in various ways, including the connotation associated with the word "atheist," a perceived obligation to denounce belief in god(s), and other remnants of decades of religious suppression in society (Zuckerman 2007; Norris and Inglehart 2004; Solt et al. 2011, 453). Also incorporated in the model are controls at the individual level for age, sex, marital status, and number of children, all of which are known to correlate with irreligiosity (Bainbridge 2005; Zuckerman 2007). Furthermore, variables used for testing hypotheses are incorporated into all variants of the model as controls whenever possible. Models predicting macro-level

values will control for individual-level demographics by controlling for country-year mean values for each respective demographic.

2.5 Results and Discussion

Results

MCMC estimates of the parameters' posterior distributions were calculated by running two Markov chains, each with a 5,000 iteration "burn-in" (to allow for convergence) and 20,000 additional iterations, for a total sample of 40,000. Results are presented in Tables 2.1 through 2.9 in the Appendix. This section will begin with a reporting of the results from the two four level models. Estimates from the seven three level models will then be presented in order of the first hypothesis tested in each model. Interpretation of the results will follow in the "Discussion" section. The discussion includes a side-by-side analysis of frequentist and Bayesian estimates for Model 2.3: a three level model used to test seven of the twenty hypotheses in this chapter. A brief conclusion of the chapter's findings will follow.

The organization of models and the respective hypotheses for which they are designed to test is mapped in Table 2.01 in the Appendix. An overview of the supportiveness of results pertaining to each hypothesis appears in Table 2.02.

Note that *p* values are substituted for their Bayesian equivalents in the results. Rather than estimating the probability of a parameter occupying a certain range of values, Bayesian statistics uses a different method for rejecting the null hypothesis. This method requires calculating parameters and estimating "posterior" population distributions. If 97.5% of a

posterior distribution is greater than or less than zero (using centered predictors), a two-tailed test yields a *p* value equivalent of 0.05. These statistics are readily comparable to *p* values derived from *z* scores or *t* scores, but offer the advantages discussed above in the "Methods" section. They are henceforth referred to as *p* values for the sake of simplicity and familiarity.

Four level models

Estimates of individual-level dependent variables are presented in Tables 2.1 and 2.2, with the former reporting parameter estimates for H6 and H7 and the latter presenting estimates for H13. In Model 2.1, a logit model predicting unbelief in god[s], all level-1 controls are significant. Coefficients for age, gender, number of children, and urbanism are all in the expected directions. The strongest predictors in the model are those of femaleness (-0.055) and age (-0.051, -0.053). The average coefficient for marital status across all country years (-0.014) is highly significant ($p < 0.001$) and in the expected direction.

At the country-year level of Model 2.1, the gamma coefficients controls generally contain greater variation and are less frequently significant than those at the first level. Coefficients for the prevalence of Catholicism (-0.062), religiosity (-0.048), and cultural religion (0.008) are all significant and in the expected directions. The magnitude of the estimated effect of Catholicism's prevalence is somewhat surprising, as this variable outperformed all others at the second level, including mean levels of religiosity. Estimates for the effects of logged GDP per capita (0.026), government intervention in religion (GIR), and social welfare spending are not statistically significant. Inequality yields a slightly significant ($p < 0.05$) coefficient for formerly communist countries (0.024) and a statistically insignificant coefficient in the opposite direction

for countries without histories of communism (-0.016). Furthermore, estimates of the effects of time across the data series (year) are significant for both formerly communist societies (-0.045) and societies without histories of communism (0.014). Interestingly, these estimates are in opposite directions across the level-4 clusters and stronger for formerly communist nations ($p <$ 0.001 compared to $p < 0.05$). These differences support the models' randomization of certain variables across the fourth level in the data series. However, level-1 coefficients for age, which vary across the level-4 clusters, are not significantly different (-0.051 and -0.053, respectively), suggesting that a history of communism bears an insignificant net impact on the impact of age in predictions of unbelief.

The solitary predictor at the third level of Model 2.1, religious pluralism (-0.013), fails to attain statistical significance. In fact, the standard error of this coefficient (0.046) is more than three time greater the magnitude of the coefficient, suggesting a lack of effect for this variable as measured. Intercepts are highly significant ($p < 0.001$) at all four levels of Model 2.1.

The results of Model 2.1 demonstrate supportive evidence for both H6 and H7. As can be seen, beta coefficients for each of the two independent variables in Model 2.1 are highly significant ($p < 0.001$) and in the expected directions. Interestingly, the coefficient for education (0.021) has more than twice the magnitude of that for income tertile (0.009). Although economic standing within society is positively correlated with unbelief, the impact of economic standing as measured is substantially less than that of education.

Results of Model 2.2, predicting avowed atheism, demonstrate highly significant ($p < 0.001$) estimates for all level-1 predictors. The beta coefficients with the greatest magnitudes are those for femaleness (-0.018) and education (0.012), the independent variable for

H13. Coefficients for age are consistently significant and negative across level-4 clusters, with greater magnitude for countries without communist histories. Notably, the control for urbanism yields a negative coefficient (-0.007), in contrast to the highly significant positive coefficient for that variable in Model 2.1.

The only significant coefficients at the second level of Model 2.2 are those indicating the effects of Catholic prevalence (-0.013; $p < 0.005$), religiosity (-0.017; $p < 0.001$), and, for countries without histories of communism, year (0.010; $p < 0.001$). Estimated effects of GDP per capita, GIR, social welfare spending, and cultural religion all fail to meet traditional standards of statistical significance. One obvious difference in the results of this model compared to those of Model 2.1 is the coefficient for the prevalence of Catholicism, which is relatively modest in magnitude in Model 2.2 (predicting avowed atheism) compared to its substantial magnitude in Model 2.1 (predicting unbelief). This finding will be explored in the "discussion" section below.

The level-3 predictor for religious pluralism (0.017) fails to yield statistical significance. Intercepts are highly significant ($p < 0.001$) at all levels of Model 2.2.

A comparison of estimates across Models 2.1 and 2.2 requires a caveat: coefficient values should not be compared directly across the models due to the difference in dependent variables. For instance, the beta coefficient for education, though positively and significantly correlated with both atheist ideology and identity, exhibits a greater magnitude (0.021) in Model 2.1 (predicting the ideological component of atheism) than in Model 2.2 (0.012). Similarly, economic standing appears to bear an effect of lesser magnitude on avowed atheism (0.002) than on unbelief (0.009), though estimates for this parameter are significant and in the expected

direction in both models. These results are likely impacted by differences in the distributions of the models' respective dependent variables and should not be interpreted as directly correspondent across models. Avowed atheism is less prevalent than unbelief in god[s], resulting in coefficients of lesser magnitude in models predicting the former in comparison to models predicting the latter.

Three level models

A series of seven three level hierarchical models are used for testing the remaining seventeen hypotheses. These models utilize the country-year level of analysis as the first level, nested in the country clusters of level 2 and the two level-3 clusters differentiating countries across the "Iron Curtain" of communist histories. All variables using individual-level data are weighted at the country year-level to reflect equal proportions of males and females.

Model 2.3 predicts the prevalence of unbelief in god(s) at the country-year level of analysis and is used for testing seven hypotheses, including H1-H5, H9, and H17 (see Table 2.3 for results and Table 2.01 for a map of hypotheses and their respective models). Six of these hypotheses are tested with level-1 predictors.

Three of the four controls at the first level of Model 2.3 yield highly significant ($p <$ 0.001) estimates, comprising, in order of magnitude, religiosity (-0.051), prevalence of Catholicism (-0.034), and cultural religion (0.009). Controls for the year of the surveys are significant for both formerly communist countries (0.018; $p < 0.05$) and countries without histories of communism (-0.047; $p < 0.001$), though in opposite directions.

Aside from the prevalence of Catholicism and mean religiosity, the strongest predictor in the model is that of the secularization index (0.030; $p < 0.001$) (note: the magnitude of the coefficient for the year of the survey is greater for formerly communist nations [-0.047], though the standard error for this estimate [0.017] is considerably higher). This result offers support for H1. The next strongest predictors are those for economic inequality, yielding coefficients of -0.023 ($p < 0.001$) for countries without communist histories and 0.029 ($p < 0.001$) for formerly communist countries. The opposite signs of these estimates are surprising, given that the relevant hypothesis (H3) predicted a negative effect for both level-4 clusters. The highly significant, mixed results of this variable reinforce the importance of distinguishing between formerly communist nations and those without histories of communism. However, they provide only limited support for H3 and warrant a closer examination, which will appear below in the discussion section.

The estimated effect of social welfare spending per capita in Model 2.3 (0.014) is highly significant ($p < 0.001$) and in the expected direction, supporting the expectations of H2. GDP per capita yields a significant ($p < 0.05$) coefficient (0.026) in the expected direction. However, the relatively high standard error (0.010) indicates that the relationship between this variable and unbelief bears substantial variation across country years. That said, the results provide some level of empirical support for H2.

The estimated effect of urbanization is moderately significant ($p < 0.05$) and in the expected direction, though its magnitude is particularly low (0.008). This result offers limited support for H4.

Government intervention in the religious economy (GIR) fails to yield a significant estimate in the model, which predicts a standard error (0.011) of greater magnitude than the coefficient (0.005) for this variable. Therefore, the results fail to provide adequate evidence for rejecting the null hypothesis, which assumes the absence of a GIR effect on unbelief. H17 is hence unsupported by the model's results.

The second level of Model 2.3 contains the single predictor of religious pluralism, which is used as the independent variable for testing H9. The estimated effect of this predictor (-0.006) is statistically insignificant, with a standard error (0.009) of greater magnitude than the beta coefficient. As a result, H9 is unsupported by the results and the null hypothesis is upheld.

Intercepts, which are calculated separately for formerly communist nations and those that have never held communist governments, are all highly significant ($p < 0.001$) for each three level model employed in this chapter.

Model 2.4 predicts the secularization of society at the country-year level according to gender-weighted mean values of the secularization index constructed in the previous section. This model tests H8, which anticipates a positive effect of religious pluralism. The resulting beta coefficient (see Table 2.4) for religious pluralism is positive, though statistically insignificant. The only significant control variables in the model are those measuring rightist party governance (-0.011) and income inequality for countries without histories of communism (-0.050).

The results of Model 2.5, which tests H10 and H16, are presented in Table 2.4. The dependent variable here is the proportion of avowed atheists in society (AA/S), with observed values linearly rescaled to span a 0-1 range. The level of analysis is country year, with cultural religion and government intervention in religion (GIR) serving as the independent variables for

H10 and H16, respectively. The results support H10, yielding a highly significant ($p < 0.001$) coefficient in the anticipated direction (-0.018). H16 is unsupported by the results, as the confidence interval for GIR's estimated effect spanned comfortably across the origin. Controls for inequality, year, urbanization, and rightist party governance are all highly significant ($p < 0.001$), with inequality for never-communist countries exhibiting the greatest magnitude (-0.031). The posterior distribution estimating the effect of social welfare spending per capita (0.010) is statistically significant with a two-tailed 95% confidence interval (i.e. $p < 0.05$). While the estimated effect of inequality on the prevalence of avowed atheism is negative for both "ex-com" (Level 3) clusters, the direction of the estimated effect of chronology across the data series ("year") switches directions across the "Iron Curtain." Avowed atheism appears to grow with time in the never-communist societies and shrink with time in formerly communist ones. Controls for GDP per capita, GIR, urbanization, and religious pluralism are all statistically significant.

Model 2.6 predicts the proportion of nonbelievers in god(s) identifying as "convinced atheists" (AA/NB) at the country-year level. This variable is rescaled linearly to fill a 0-1 range to allow for a more reasonable comparison of coefficients' magnitudes across the three level models. Four hypotheses are tested in the model, including H11, H12, H19, and H20. H11, which contends that the extent of a society's collective religiosity bears a direct relationship with the proportion of nonbelievers identifying as atheists, receives supportive evidence in the results, with a highly significant ($p < 0.001$), positive coefficient (0.017). H12—predicting that rightist party governance tends to increase the proportion of avowed atheists among nonbelievers—receives supportive evidence in the results, with an estimated beta coefficient of 0.019 ($p <$

0.001). H19 is unsupported by the results due to the statistical insignificance of the coefficient for religious pluralism, which is also in the direction opposite that predicted.

Receiving the strongest support from Model 2.6 is H20, which suggests that higher proportions of Catholics tend to accompany higher levels of avowed atheism among nonbelievers. The coefficient for this variable (0.021, $p < 0.001$) is of the greatest magnitude among predictors in the model. Controls for inequality and GDP per capita are highly significant ($p < 0.001$), as is the variable "Year" for never-communist societies. It is worthy to note that this is the first and only Chapter 2 model in which the variable for GDP per capita bears a highly significant estimate. Cultural religion is slightly significant ($p < 0.05$). The remaining controls failed to yield significant estimates.

Table 2.5 displays the results of Model 2.7, 2.8, and 2.9. Model 2.7 predicts religious pluralism and tests H14, which anticipates a negative relationship. The associated coefficient is negative but statistically insignificant, and the model therefore fails to support H14. Of the controls in this model, religiosity is moderately significant (0.008, $p < 0.01$) and cultural religion is slightly significant (0.013, $p < 0.05$). All other controls fail to attain significant estimates in the model.

Predicting religiosity, Model 2.8 tests H15, which anticipates a positive effect of religious pluralism. The results fail to provide convincing evidence for rejecting the null hypothesis, as the respective coefficient is insignificant and negative. Social welfare spending per capita and inequality—for never-communist countries—are highly significant in this model ($p < 0.001$). Urbanization, GIR, and inequality in formerly communist countries are slightly significant ($p < 0.05$). All other controls are statistically uninformative.

Like Model 2.5, Model 2.9 predicts the prevalence of avowed atheism in society, using a dependent variable scaled to a 0-1 range. H18 anticipates a positive effect of religious pluralism. The model's estimated effect of religious pluralism is insignificant and in the opposite direction from that hypothesized, thereby failing to support H18. Controls for inequality, year, and cultural religion are all highly significant ($p < 0.001$), with the direction of the effect of the year variable switching across the two level-3 clusters, as in Model 2.5. Social welfare spending per capita yields a moderately significant ($p < 0.01$) beta coefficient, while controls for GDP per capita, GIR, urbanization, and religious pluralism all fail to attain standard measures of statistical significance.

Discussion

The most striking pattern in the results is their favorability of secularization theory over religious economy theory, as operationalized. Ten of the thirteen hypotheses derived from secularization theory receive full support from the models' results, while an additional one receives partial support. In contrast, none of the seven hypotheses drawn from the logic behind the "religious marketplace" are supported by the empirical tests. Values for the relevant independent variables come directly from established research from within that tradition (i.e. Fox 2008; Alesina et al. 2003). The most proximal conclusion to be drawn from this disparity is that secularization theory offers a more viable paradigm for understanding atheism in a sociopolitical context.

That said, several hypotheses merely extend well established trends of nonreligious populations to nonbelievers in god(s). For instance, economic security, urbanization, and

education are all known to correlate positively with secularism at the macro-level (see: Norris and Inglehart 2004). It is not surprising these patterns also apply to nonbelievers. However, the scant cross-national empirical work on atheism compelled the formal testing of these hypotheses. Regardless of how intuitive these correlations may be, social science requires empirical evidence for an argument to be persuasive. For the first time, this evidence is now available.

Of those secularization theory hypotheses concerning the identity component of atheism (H10-H13), all receive empirical support from the models. This is particularly interesting when considering that secularization theory is traditionally used to explain trends in religious beliefs, rather than trends in [ir]religious identities. Of the eleven secularization theory hypotheses concerning atheist ideology (H1-H10, H13), eight receive full support from the models and one receives partial support.

The only unsupported secularization theory hypotheses (H8, H9) are those utilizing religious pluralism as an independent variable. It is worthy to note that values for this variable derive from the religious economy school (Alesina et al. 2003). The two theoretical approaches hold opposing expectations in regards to religious pluralism's effect on atheist ideology. However, no significant impact on atheistic ideology or identity was observed for that predictor in any of the models. Thus despite the theoretical importance of religious pluralism in both theories, this empirical research fails to support either side of the debate on the role of pluralism.

The statistical insignificance of the religious pluralism variable may be due, in part, to imprecise measurement. While other macro-level predictors were measured at the country-year level of analysis, data for this variable were confined to the country-level. Religious pluralism, like all sociodemographics in the model, likely fluctuated over time within the societies

analyzed. Precise, annual data for this variable is recommended for future empirical research on the subject. For this research endeavor, the null hypothesis—that religious pluralism bears no effect on atheist ideology—cannot be rejected. That said, the other independent variable central to religious economy theory, government intervention in the religious economy (GIR), performed rather poorly throughout the models, reaching the threshold of statistical significance just once (Model 2.8). This variable is measured at the country-year level. The only conclusion to be drawn from its ineffectiveness is the null hypothesis, which assumes that GIR bears no effect on atheistic identity or ideology.

In predicting atheist ideology (i.e. unbelief in god[s], Model 2.3), the predictor for income inequality performs as expected for never-communist countries, but in the opposite direction for formerly communist countries. The negative impact of inequality on the prevalence of atheist ideology in never-communist countries is corroborated by extant research (i.e. Norris and Inglehart 2004; Solt et al. 2011). However, the observed positive correlation between equality and unbelief in formerly communist countries is unexpected, and may be the result of disparities in post-communism development across these societies. As formerly communist Western countries are both less religious and less unequal than their never-communist counterparts, the post Cold War rise of capitalism and increased social integration with Western and Central Europe may condition the effect of inequality on atheist ideology. Those formerly communist economies developing fastest likely experience sharper rises in trade and social interaction with the more religious, never-communist societies, leading to both increased inequality and a rise in theism. More isolated formerly communist societies are likely slower in their economic development and therefore experience less cultural influence from across the Iron

Curtain. However, this speculative explanation requires an empirical inquiry external to the research limitations of this work.

Interestingly, income inequality is observed to bear a negative impact on atheist *identity* for both never-communist and formerly communist nations, as can be seen in Models 2.5, 2.6, and 2.9. This effect is consistently of greater magnitude for never-communist societies. This finding reinforces the need to differentiate atheist identity from atheist ideology in social science research. Moreover, the negative effect of inequality on the prevalence of atheistic identity in formerly communist countries suggests that the impact of inequality either overrides or eludes any constraints it may face as a result of historical communism.

Although much of the recent social science literature suggests that a religious/secular divide has replaced the salience of the Catholic/Protestant cleavage in regards to political alliances (see: Jelen and Chandler 1996; Inglehart 2008; Froese and Pfaff 2005), the results presented here suggest that the Catholic/Protestant divide maintains substantial political relevance in regards to the group identities of nonbelievers. In fact, the variable for Catholic prevalence outperforms the religiosity variable in the four level model predicting unbelief in god(s) (NB: Model 2.1), and the three level model predicting the proportion of avowed atheists among nonbelievers (AA/NB: Model 2.6). On the other hand, the religiosity index outperforms the proportion Catholic variable in the four level model predicting avowed atheism (AA: Model 2.2) and the three level model predicting unbelief in god(s) (NB/S: Model 2.3). Moreover, the effect of Catholic prevalence is observed to switch direction when predicting the proportion of avowed atheists among nonbelievers (AA/NB: Model 2.6), suggesting a positive impact on the polarization of nonbelievers. In contrast, the prevalence of Catholicism appears to bear a

negative effect on the overall proportions of both nonbelievers and atheists in society (Models 2.1, 2.2, 2.3).

These results suggest that large Catholic populations tend to accompany relatively outspoken populations of nonbelievers. The hypothesis that predicts a positive correlation between the prevalence of Roman Catholicism and that of avowed atheism (H20) does not derive from either of the two theoretical traditions, and its subject has received little attention in the relevant scholarship. These results support additional theorizing as well as empirical inquiry. The evidence regarding whether or not former Catholics are more likely to identify as atheists than former Protestants remains rather scant (see: Hunsberger and Altemeyer 2006; Pasquale 2009; Literature Review, above). If the findings of this research are the result of an intensified sentiment of irreligion among former Catholics, as hypothesized, several questions arise concerning the causal mechanism embedded within Catholicism. Is it the hierarchy of the Catholic Church that polarizes nonbelievers? Is it something about the Catholic doctrine, the Vatican's positions on controversial social issues, or historical political forces? Is the group label of "atheist" more deviant in Catholic circles, or is it more accepted? Unfortunately, these questions must remain unanswered in this text. However, their significance to the subject of atheism in politics is augmented by the findings presented here.

Taken together, the two four level models (2.1 and 2.2) demonstrate a tendency for individual-level variables to outperform macro-level ones. Given that the dependent variable here occurs at the individual level and demonstrates substantial variation within each group cluster, the strength of the basic sociodemographics predictors (e.g. age, sex, marital status) is not surprising. The combination of large sample sizes, multilevel modeling, and Bayesian estimation share the credit for the relatively small variances of these individual-level predictors.

In sum, the empirical evidence presented in this chapter suggest that Western individuals are less likely to proclaim belief in god(s) if they are well educated, financially secure, and living in a relatively urbanized community. Social welfare spending per capita, economic development, and high levels of secularization also appear to correlate with higher levels of unbelief. Atheistic identity exhibits a positive relationship with education and a negative one with cultural religion. Moreover, atheistic identity among nonbelievers correlates positively with the prevalence of Catholicism, the religiosity of society, and rightist party governance. Income inequality and the passage of time sometimes bear different effects on atheism in formerly communist nations than in nation without histories of communist rule. These results demonstrate the importance of distinguishing "organic" from "coerced" atheism in empirical research. Furthermore, they shed light on the distinct social phenomena of atheism as a non-belief and atheism as a social and political identity. The distinction between atheist identity and ideology is explored further in the next chapter, using a comparative political lens to highlight the independent effects of each irreligion component.

Frequentist vs. Bayesian Estimations

Bayesian estimation is considerably more complicated than classical, frequentist estimation, and its application in the social sciences therefore requires justification. Section 2.4 included a conceptual justification for using Bayesian estimation, emphasizing the weaknesses of frequentism's repeated sample logic when using samples of finite countries. That section also discussed the anticipated advantages of Bayesian estimation in regards to the reliability of

estimates. This section will present two sets of results of Model 2.3, one comprising frequentist estimates and the other derived from Bayesian estimation.

Model 2.3 was selected for this analysis for two reasons. First, this model is used to test more hypotheses than any other model used in this chapter. Second, Model 2.3 is the first model that predicts a macro-level dependent variable. The relative strength of Bayesian estimation is allegedly most pronounced in smaller *n* studies (Stegmueller 2013). If results demonstrate the anticipated Bayesian advantages, the decision to use Bayesian estimation will be substantiated.

Stegmueller (2013) reveals that frequentist estimation sometimes underestimates the standard errors of predictors, whereas Bayesian estimates of standard errors are generally more conservative. For this reason, the use of frequentist estimation may lead to Type I errors when interpreting results, given the potential for insignificant parameters to yield significant predictors. In the results of Stegmueller's analysis, the advantages of Bayesian estimation are demonstrated by more conservative confidence intervals for parameter estimates of similar magnitudes.

A side-by-side comparison of results using both styles of estimation can be seen in Table 2.6. The differences in parameter estimates are subtle, but significant when taken together. Although none of independent variables yield significant predictors in the frequentist estimates and not their corresponding Bayesian estimates, the possibility of this outcome appears likely. Six of the thirteen predicted slopes bear slightly smaller standard errors while the other seven are identical across estimates (after rounding). Moreover, the magnitudes of the frequentist slope estimates are all less than or equal to those of their corresponding Bayesian estimates. These patterns suggest that Bayesian estimation outperforms frequentist estimation by providing more

rigorous testing of the data. Although the differences observed here are rather slight, they validate the notion that the selection of an estimation strategy could bear substantial influence on the inferences drawn from results. The superior performance of Bayesian estimation serves to justify its use in this research design.

Lastly, the Bayesian estimates required substantially less time to calculate than the frequentist ones, even after 40,000 iterations of a Gibbs sampler. This comparative advantage is certainly more beneficial to the researcher when estimating the four level models, for which a single iteration can take several seconds using a personal computer. However, frequentist estimation of either four level model constructed here requires many more hours of computation using the same computer. For these four level models, the computational efficiency of the Gibbs sampler enables concise estimation under conditions of limited time resources. Overall, it is safe to say that Bayesian estimation is significantly faster than frequentist estimation when applied to the multilevel models and data series used in this study.

2.6: *Conclusion*

The most readily apparent conclusion to be drawn from the models' results is the relative strength of support for those hypotheses extrapolated from secularization theory. Of the thirteen hypotheses drawn from the tenets of that theoretical approach, ten receive undivided support from the posterior distributions estimated by their respective models. Of the remaining three hypotheses, one (H3) receives support within the subset of never-communist countries, though is

unsupported within formerly communist societies. Thus, only two of the thirteen hypotheses derived from secularization theory failed yield any support from the empirical models.

In stark contrast to these results lie those of the models testing hypotheses drawn from supply side religious economy theory. None of these six hypotheses are supported by the models' results. The variable indicating government intervention in the religious economy fails to yield a significant beta coefficient in any of the models. It remains possible that this result may indicate nothing more than a poor measurement of the concept at hand. However, values used for this variable derive from the religious economy school's Religion and State dataset (Fox 2008) and are widely used in the quantitative religious economy scholarship (see: Bainbridge 2009; Jagodzinski and Greeley n.d.; Witham 2010).

Similarly, the variable indicating religious pluralism (i.e. fragmentation) fails to yield a posterior distribution significantly different from zero in all models. This variable also derives from the religious economy school (Alesina et al. 2003) and should provide the most accurate measure of religious pluralism according to that theoretical tradition. Taken together, the statistical insignificance of these two variables across all models casts serious doubt upon the validity of the two core axioms of supply side religious economy theory when applied to irreligion. These axioms fail to explain any variation in irreligious identity or ideology in the methods used above. Furthermore, the strength of support for the hypotheses drawn from secularization theory suggests that the methods themselves are not to blame for the models' unsupportiveness of religious economy theory.

CHAPTER 3: ATHEISM AND POLITICAL BEHAVIOR

3.1: *Introduction*

Although disbelief in god(s) is not a political stance in itself, it would be unwarranted to assume that atheism plays no role in the political behavior of its subscribers. Given the well documented effects of religiosity on political behaviors, irreligiosity likely bears myriad impacts in the political sphere. As Bréchon (2003) observes, "…a rejection of religion goes hand in hand with clear ethical, social, and political values" (140). This chapter will expand upon Bréchon's findings by addressing two core questions: (1) does the avowal of atheism denote a distinct group identity across political systems? Or (2) are the political behavioral patterns of nonbelievers the result of atheistic beliefs, rather than atheist group-identification?

The potential significance of these unresolved issues in contemporary Western politics can hardly be overstated. According to the cultural approach of comparative politics, the political climate of a given society operates as an extension of societal norms and culturally-ingrained patterns of social interaction. A political culture, according to one seminal work in the subfield, comprises "attitudes towards the political system and its various parts, and attitudes toward the role of the self in the system" (Almond and Verba 1963, 13). Political cultures are linked to the relative [in]stability of governmental institutions (ibid.; Inglehart 1988; Putnam and Leonardi 1993; Rohrschneider 1999). Furthermore, governments and political cultures interact

to shape one another, exerting reciprocal forces of both stability and change over time (Almond and Verba 1963, Chapters 11, 13).

Religion tends to bear a major influence on cultural norms and customs pertaining to interpersonal interactions (Geertz 1973; Roberts and Yamane 2011). Accordingly, political cultures are especially prone to dramatic changes in societies where religion's salience exhibits a rapid decline. However, the characteristics and severity of these changes remains largely unexplored in the extant scholarship.

While those who identify as atheists comprise a unique minority group in Western societies, the social environment that conditions their interactions with broader society inevitably involves the role of religious individuals and groups. Demographic differences between avowed atheists and religious identifiers pertaining to age, gender, class, education, values and worldviews, social connectedness, and "symbolic universes" (see: Bréchon 2003; Taylor 2007) are all potential sources of political divergence. In democratic politics, atheists and theists must work together in some fashion, whether antagonistic or collaborative, to devise and execute public policies that affect all compatriots. Growing atheist populations in the West make it increasingly necessary for religious political actors to acknowledge the policy objectives of their atheistic counterparts, while the minority status of avowed atheists in every society requires atheists to work with less irreligious partners in order to affect political outcomes. Ideological contentions and behavioral differences among atheists and religious identifiers in the political realm reflect core features of intergroup relations across a spectrum of religiosity. Due to the inclusiveness and competitiveness of democratic politics, the essence of these relations is likely more pronounced in political affairs than in any other social sphere.

Religious influences have long played a significant role in shaping the structures and outputs of ostensibly secular political institutions. However, the rapid progression of secularization in the West over the past century has ensured that "the relationship between church and state has changed dramatically" (Norris and Inglehart 2004, 196). Religion may be less direct in its policymaking role and provision of welfare services than in the past, but it retains a formidable influence on political outcomes through its sway in public opinion and party alliances (see: Inglehart 2008; Norris and Inglehart 2004; Lipset and Rokkan 1967; Lijphart 1979). Religiosity remains a powerful predictor of various facets of an individual's political behavior.

That said, irreligiosity may be an even stronger predictor of the political behavior of the religiously unaffiliated. A 2009 survey of nonreligious individuals in several Western societies reveals that when given a wide variety of nonreligious labels to describe themselves (e.g. "humanist," "agnostic," "spiritual," "atheist," "deist," etc.) and asked, first, to select all that apply, and next, to select the single "most descriptive" label for themselves, most respondents (57%) who choose "atheist" as a label in the first stage retain that label in the second (Galan 2009, 43). No alternative label exhibits such a high retention rate. This finding, supplemented with additional evidence derived from the survey instrument, leads the author of the study to conclude that atheist identifiers benefit from a "stronger group identification" than those who choose alternative labels for themselves (44). Moreover, the "atheist" label describes the most fervently irreligious group in society (Pasquale 2010: in Zuckerman 2010). This highly-educated young group transcends national boundaries with "a greater willingness to go against the social grain" than others (Galan 2009, 44). While still a relatively nascent movement, social science

scholarship suggests that the "New Atheism" is well underway in constructing a sizeable political force in the West (Cimino and Smith 2011).

This chapter will explore the political role of atheistic identification, particularly by contrasting the political behavior of avowed atheists with the larger group containing all individuals without belief in god(s). Moreover, the analysis will investigate the potential impacts of the political and religious climates on atheists' political behaviors and ideologies. The political behavioral components discussed in the literature review and applied in the theory section will concern participation in political affairs, political ideology, politicization, postmaterialism, political tolerance, and interpersonal trust. Thirteen hypotheses are enumerated and schematized in the theory section and operationalized in the subsequent methods section. Following a discussion of the models' results, a brief conclusion will complete the chapter.

3.2: *Literature Review*

3.2.1: *Political Participation*

Almond and Verba's renowned *Civic Culture* (1963) contends that, if "a democratic political system is one in which the ordinary citizen participates in political decisions, a democratic political culture should consist of a set of beliefs, attitudes, norms, perceptions and the like, that support participation" (178). Accordingly, an empirical examination of atheism's amenability to democratic politics in societies characterized by religious pluralism demands an analysis of atheists' participation in political affairs. Further, inferences regarding the effects of atheism on political participation can only be understood in a broader social context, which

requires contrasting patterns of political participation among avowed atheists with those of unavowed atheists and theists.

In line with the prevailing trend in the social sciences, the relationship between religion and political participation receives considerably more attention than that of irreligion and political participation, but several noteworthy exceptions appear in recent scholarship (e.g. Zuckerman 2010; Pasquale 2010). Even those studies which combine all nonreligious individuals under a common label tend to find relatively higher rates of political participation among the nonreligious (e.g. Hoffman and Miller 1997; Bruce 2002; Inglehart 2008). However, those studies which do isolate a religious category for self-described atheists in the West have found that: "in every country and every age group, those who reject religious systems participate more intensely in politics" (Bréchon 2003, 128; see also: Zuckerman 2010, 190). These studies further demonstrate that even after controlling for the disproportionately high levels of education among them, atheists do indeed participate more actively in democratic politics.

Bréchon (2003) suggests that "…criticism of religious systems is most likely part of a symbolic world in which politics is emphasized" (128). Others link atheists' high levels of political engagement to a general distrust of authority and institutions in power (Geissbühler 2002, 116) and/or a collective emphasis on democratically-amenable values such as self-direction and independence (ibid.; Barnea and Schwartz 1998). No known empirical work has rigorously examined the causal mechanism(s) of atheists' participatory political behavior. However, some have suggested that the "New Atheism" movement provides a social and political identity that encourages political participation, especially in political climates marked by high levels of traditionalistic religiosity and intolerance towards atheists (Cimino and Smith 2011; Talmont-Kaminski 2009; Gervais 2011).

3.2.2: *Political Ideology and Politicization*

Religious organizations have long exerted demonstrable influence on the political opinions, attitudes, and values of their members (Converse 1964; Lipset and Rokkan 1967; Lijphart 1979; Norris and Inglehart 2004, Chapter 9). Lipset and Rokkan's (1967) seminal work on partisan affiliations among citizens emphasized the role of two polarizing religious cleavages reflected in Western party allegiances: that distinguishing Protestants from Catholics and that separating practicing Christians from non-practicing, nominal Christians. Since the publication of Lipset and Rokkan's work, "traditional linkages between social groups and party support have weakened, although structural factors such as class, age, gender, and religion remain important predictors of voting choice" (Norris and Inglehart 2004, 199). Among the factors that influence political preferences, religiosity remains the strongest predictor of voting choice among industrialized nations, with the most religiously devout individuals offering consistent support for parties on the "right" while nonreligious individuals and avowed atheists tend to support parties on the "left" (ibid. 201-10; Zuckerman 2009, 953). This partisan divide between atheistic and religiously devout voters is well documented in the literature (see: Bréchon 2003; Norris and Inglehart 2004) and will therefore not be tested explicitly in the forthcoming empirical models.

Similar to partisan preferences, individuals' political values and ideologies are also strongly correlated with levels of religiosity. For instance, Norris and Inglehart (2004) find that WVS respondents who report higher values on the ten-point "importance of God" scale consistently show a greater propensity towards self-placement near the "right" pole of the

political spectrum, especially in postindustrial nations, and that the nonreligious are twice as likely to place themselves on the left than on the right (204-10).

Although most of the empirical work on religion and political ideology fails to differentiate among the various group identities within the "nonreligious" category, several significant exceptions shed light on the diversity of this demographic group. Bréchon (2003), for instance, provides a series of tables depicting the political values of various religious groups across ten Western European nations, including separate categories for "committed atheists" and "no religion" for each political component measured. For the "right-wing self placement" variable, taken from a ten-point scale in the WVS, Bréchon reports the lowest mean value across nations belongs to "committed atheists," whose average score is a mere 15 (out of 100). Contrast this with the second and third most liberal groups, non-attending Catholics and the nonreligious, who average 23 and 24 on the scale, respectively, and the distinctness of an atheist political identity becomes clear (Table 6.11, 156). Similarly, Geissbühler (2002) finds that atheists in Switzerland place themselves an average of 0.5 points to the left of theists on a ten-point scale even after controlling for age, political interest, and income (117-118). Finally, Lim, MacGregor, and Putnam (2010) corroborate these findings, observing a greater propensity of leftist political preferences among the more committed atheists relative to other nonbelievers in their data series (41).

Additional differences in the political ideologies of atheists and theists have also been demonstrated in empirical analyses of cross-national survey data. Bréchon (2003) finds that the only significant cleavage in religious groups' views on nationalism is that dividing avowed atheists and all other groups. Avowed atheists hold a mean score of 35 on the author's 100-point nationalism scale, while the second least nationalist group, the nonreligious, average 53 (Table

6.14, 159). Bréchon notes that avowed atheists are also the most likely to consider themselves "citizens of the world," rather than confine themselves to a particular national identity, and are least supportive of authoritarian institutions (135-6). Geissbühler (2002) similarly observes a negative correlation between [Swiss] atheism and trust in political institutions, particularly authoritarian ones (116).

Politicization is a facet of political behavior that bridges the conceptual gap between ideology and participation. It concerns the salience of political affairs in an individual's worldview and daily life. Bréchon operationalizes politicization with a three-item index measuring the degree to which subjects are interested in politics, the frequency of their political discussions with friends, and the self-reported importance of politics in their lives (2003, 126). Using this index in his aforementioned multinational cross tabulations, the author reveals that, "[w]ithin each country studied, regardless of its culture, being an atheist or non-religious influences politicization considerably. In almost every country, rejection of religion is accompanied by strong politicization" (ibid., 127). Here, the "rejection of religion" refers to those who identify as "convinced atheists" in the data series.

Avowed atheism may serve as a distinct "group consciousness" in the political sphere, according to the schema developed by Miller and colleagues (1981) and operationalized in later works (e.g. Jelen 1991). Miller et al. theorize that although there exist a plethora of group identifications available to members of post-industrialized societies, in order for a group "consciousness" to be politically relevant, it must satisfy four distinct criteria. First, members must identify with the group and perceive a sense of belonging. Second, the group must exert a "polar affect," which induces positive assessments of in-group members and negative feelings towards members of visible out-groups. Third, in-group members tend to share a conception of

their group's political power relative to other groups. Lastly, members of the group hold a shared notion of the extent to which individual efforts affect social status, relative to the impact of macro-level inequities. The authors note that this model, while generalizable in theory, pertains most accurately to disadvantaged minority groups in society.

The first of Miller and colleagues (1981) criterion—group identification—is readily applicable to the study of atheism. This element distinguishes avowed atheists from unavowed atheists. Evidence for the "polar affect" of a politically relevant atheistic group consciousness will surface among avowed atheists if this group is more politicized than unavowed atheists. If present among avowed atheists, the third criterion, denoting a shared sense of "polar power," will likely bolster the politicization and political participation of atheist identifiers. The fourth criterion enumerated by the authors concerns political ideology and translates rather well to the left/right self-placement scale. If avowed atheists form a relatively cohesive faction with a concentrated distribution across the left/right spectrum, they can be seen as satisfying this requirement for political relevance as a group.

3.2.3: *Postmaterialism, Political Tolerance, and Interpersonal Trust*

According to a prominent body of work conducted by political scientist Ronald Inglehart and colleagues, political values are changing on a global scale, particularly within stable, industrialized democracies (Inglehart 1990; 1997; 2008; Abramson and Inglehart 1995). In particular, postindustrial societies are becoming less "materialist" and more "postmaterialist" as living conditions improve. While prior generations tend to value material goals, such as low inflation and social order, younger cohorts are increasingly prioritizing more abstract,

"postmaterial" values such as free speech, environmentalism, and equal opportunity. Inglehart suggests that the demonstrable increase in postmaterialism across industrialized societies can best be understood as a collective rise on Maslow's Pyramid (or "hierarchy of needs"). This contention is rooted in two hypotheses: (1) the scarcity hypothesis, which claims that people place the greatest subjective value on things that are relatively scarce, and (2) the socialization hypothesis, which states that one's basic values reflect the conditions that prevailed during his/her pre-adult years (Inglehart and Abramson 1994; Inglehart 1997). According to Inglehart's argument, the demonstrable rise of postmaterialism is a result of the improved economic conditions under which baby boomers and their descendents were socialized during youth.

Correspondingly, Western atheists' political values are known to differ systematically from other nonreligious individuals as well as the general population. The prevalence of postmaterialist values is markedly higher among avowed atheists than [other] nonreligious and religious groups (Bréchon 2003). This tendency is likely a partial consequence of broader socioeconomic attributes linked with both postmaterialism and atheism, including age, lack of affiliation with a religious denomination, and level of education (ibid.; Abramson and Inglehart 1995; Norris and Inglehart 2004). However, using Inglehart's standard four-item "Postmaterialism Index" (Inglehart 1990, 1997; Abramson and Inglehart 1995), Bréchon (2003) finds that avowed atheists are substantially more postmaterialist than all other religious groups even after controlling for socioeconomic demographics (128-9; 153). In fact, Bréchon's ten nation cross-tabulation (Table 6.8, 153) provides compelling evidence for the distinctness of an atheist political identity. While "Catholics do not differ much from Protestants in level of post-materialism" and "the intensity of integration into a religious system does not have a clear effect [on postmaterialism]," avowed atheists score, on average, eighteen points higher than the next

"religious" group—the nonreligious—and twenty-six points higher than the most postmaterialist religious group—non-attending Protestants—on Bréchon's 100-point scale (scores are 54, 36, and 28, respectively: 129; Table 6.8, 153).

Although the construct validity of the Postmaterialism Index is well established in the literature (e.g. Inglehart 1997; Abramson and Inglehart 1995), the political attitudes linked to postmaterialism at the macro level are not always evident at the individual level of analysis. In his study of value systems in the U.S., Darren W. Davis (2000) fails to find statistically significant differences between materialists and postmaterialists regarding their political tolerance, political engagement, or their support for environmentalism, despite Inglehart's theoretical linkage between postmaterial values and opinions about these issues. Postmaterial values are alleged to increase political tolerance through the mechanism of increased interpersonal trust, which is largely a consequence of economic security (Inglehart 1990). Thus, postmaterialists are expected to exhibit greater political tolerance than materialists, as postmaterialists' inclination to trust others allegedly leads to them to view "any opposition as a loyal opposition, who will not imprison or execute you if you surrender political power" (ibid. 23).

Political tolerance has retained a standard empirical measure in political science since Stouffer's (1955) original operationalization of the concept, which measures support for the extension of civil liberties to disliked fringe groups (Froese et al. 2008, 31). Studies have shown consistent linkages between political intolerance and various aspects of religiosity, including theological conservatism (Ellison and Musick 1993), biblical literalism (Tuntiya 2005; Froese et al. 2008), and religiously derived attitudes about sexual deviance, feminism, and abortion (Jelen and Chandler 1996). These findings pertain to the core assumptions of the cultural approach in

comparative politics, particularly the contention that socially inclusive political values are essential for the stability of democratic institutions (see: Almond and Verba 1963; Rohrschneider 2006). Interestingly, measurements of political tolerance have often identified atheists as an example of a disliked fringe group, alongside communists, homosexuals, militarists, and other groups (Froese et al. 2008; Gibson and Duch 1991; Gervais et al. 2011; Gervais 2011). Cross-national patterns of political tolerance among atheists themselves remain largely unexplored.

Given the prevalent intolerance towards atheists in some Western societies (see: Gervais 2011; Gervais et al. 2011), it is unclear whether avowed atheists who express postmaterial values withhold some degree of political tolerance or interpersonal trust due to their stigmatized group identity. Whether or not the religious climate at the macro level conditions the avowed atheists' political tolerance also remains unknown. If avowed atheists fulfill Miller and colleagues' (1981) criteria for political relevancy, however, the "polar effect" of the atheists' group consciousness should entail negative feelings towards members of politically relevant out-groups, in particular, religious political blocs less supportive of secularism (i.e. the separation of church and government). Any such negative feelings might reduce levels of political tolerance and interpersonal trust among avowed atheists, in comparison to unavowed atheists. However, atheists' higher levels of education, minority political status, age distributions, and political leanings all tend to correlate with higher levels of political tolerance in the general population (Froese et al. 2008). The possibility of several counteracting influences on avowed atheists' political attitudes towards broader society appears likely. The empirical inquiries to follow will only scratch the surface of this complex and minimally researched topic.

The observed political divergences across the religiosity spectrum suggest that the diversity of group labels among the nonreligious may similarly account for substantial variation

in political behaviors. No known empirical work using a large cross-national sample has rigorously explored these political dynamics within the nonreligious conglomerate. Extant research on the subject provides only a scattered set of preliminary snapshots of the cross-national patterns anticipated in the scholarship. A more precise methodological approach that incorporates the appropriate controls and independent variables at both the individual and societal levels, in addition to a more representative sample of the West, is needed to discern the political impacts of contemporary atheism. Moreover, the optimal research model will distinguish the political behavioral effects of non-theistic beliefs from those of atheistic group identification in order to identify the respective political roles of the individual and social dimensions of unbelief.

3.3: *Theory*

As the results of Chapter 2 support the notion that the religious and political climates of a society tend to bear influence on the prevalence of avowed atheism (H10-H13, H20), here we will address whether the national religious environment affects an avowed atheist's political behavior, particularly in regards to politicization, political participation, political ideology, postmaterialism, and/or interpersonal trust. First, however, it is necessary to formally state several core hypotheses concerning the relationship between avowed atheism and political behavior at the individual level, all of which derive from research referenced in the literature review of the previous section. These hypotheses have each received some empirical support in the literature, but require validation with a large sample representing a broad cross-national set of cases and an adequately nuanced methodology. They will be tested accordingly.

H1a: Avowed atheists are more likely to participate in the political process than other nonreligious individuals.

H1b: Avowed atheists are more likely to participate in the political process than other individuals who do not believe in god(s).

H2a. Avowed atheists tend to be more politicized—expressing interest in and ascribing importance to politics—than other nonreligious individuals.

H2b. Avowed atheists tend to be more politicized than other individuals who do not believe in god(s).

H3a: Avowed atheists tend to place themselves further to the left on the left/right political spectrum than other nonreligious and religious individuals.

H3b: Avowed atheists tend to place themselves further to the left on the left/right political spectrum than other individuals who do not believe in god(s).

H4a: Avowed atheists tend to be less nationalistic than other nonreligious individuals.

H4b: Avowed atheists tend to be less nationalistic than other individuals who do not believe in god(s).

H5a: Avowed atheists tend to be more postmaterialist than other nonreligious and religious individuals.

H5b: Avowed atheists tend to be more postmaterialist than other individuals who do not believe in god(s).

Concerning the nuances of postmaterialism's alleged attitudinal complements; no known empirical work has examined cross-national trends of atheists' political tolerance or concern for the environment. If Inglehart (1997) is correct when implying a direct correlation between postmaterial values and support for the environmentalist movement, and if atheism serves as a politically relevant group identity, avowed atheists should be more supportive of initiatives to protect the environment than religious and other nonreligious individuals. Furthermore, avowed atheists should demonstrate greater political tolerance and interpersonal trust in corroboration with their relatively high levels of postmaterialism. These considerations lead to the following hypotheses:

H6a: Avowed atheists tend to demonstrate higher levels of support for the environmentalist movement than other nonreligious individuals and religious individuals.

H6b: Avowed atheists tend to demonstrate higher levels of support for the environmentalist movement than other individuals who do not believe in god(s).

H7a: Avowed atheists tend to demonstrate higher levels of political tolerance than other nonreligious individuals.

H7b: Avowed atheists tend to demonstrate higher levels of political tolerance than other individuals who do not believe in god(s).

H8a: Avowed atheists tend to demonstrate higher levels of interpersonal trust than other nonreligious individuals.

H8b: Avowed atheists tend to demonstrate higher levels of interpersonal trust than other individuals who do not believe in god(s).

If, on the other hand, avowed atheists in highly religious political climates tend to feel victimized by anti-atheist prejudice, the links between postmaterial values and political tolerance and trust are likely to be weaker for this cohort than in less religious environments. Given that anti-atheist prejudice entails a willingness to withhold civil liberties to atheists (Gervais 2011), avowed atheists have legitimate concerns regarding the political motives of their fellow countrymen. If these concerns affect atheists' levels of trust and/or political tolerance, such effects should be most pronounced in more religious societies, given the direct correlation between religiosity and anti-atheist prejudice demonstrated by Gervais and colleagues (2011). Furthermore, Pettersson (2003) demonstrates that individuals are less supportive of a religious impact on politics in more secularized societies, suggesting that atheists face less of a direct threat to their civil liberties when political rivals are less immersed in religion. Therefore, I include the hypotheses:

H9: Avowed atheists living in highly religious societies tend to exhibit lower levels of interpersonal trust than avowed atheists in less religious societies.

H10: Avowed atheists living in highly religious societies tend to exhibit lower levels of political tolerance than avowed atheists in less religious societies.

Norris and Inglehart (2004) reveal a consistent partisan (and political-ideological) cleavage between theists and the nonreligious, but fall short of isolating the avowed atheist

population from other nonreligious respondents in their empirical analysis of religious groups' voting behavior. Bréchon (2003) provides only cross-national summary data in cross-tabulations in his exploration of atheists' political behavior, merely scratching the surface of testing informed predictions about avowed atheism in politics. Several important issues regarding the relationship between atheists and the greater political communities in which they reside remain unresolved.

In the previous chapter, the avowal of atheism was essentially characterized as a reaction to theism (e.g. Bruce 2002). The empirical model from that chapter yielded support for H11, suggesting that nonbelievers are more likely to avow atheism when residing in a more fervently religious environment. This correlation was explained as a consequence of the relative salience of religious ideas in society and the corresponding strength of a perceived obligation to "take a side" in the controversy. However, sizeable populations of self-declared atheists reside in nations with a wide range of religiosity among the general public. If avowed atheism is largely a reaction to theism, it is logical to assume that the state of theism in a given society will affect the sociopolitical behavior of avowed atheists. This assumption appears particularly well founded in light of studies on the widespread political intolerance towards atheists in religious societies. For instance, Gervais (2011) demonstrates that "explicit anti-atheist prejudice among religious individuals is most pronounced in strongly religious countries, an association that holds up across more than 50 countries, even after including important individual-level and country-level relevant control measures." Furthermore, Gervais and colleagues (2011) devise and conduct an experimental methodology that reveals a strong, positive correlation between belief in God and distrust of atheists (29).

If intolerant anti-atheism does indeed affect the political behavior of atheists, it should do so in several predictable ways. Where the theism/atheism cleavage is especially deep, transcending political boundaries and extending into deep-seated group prejudices, atheists are more likely to consider theists a political threat. Anti-atheist prejudice is prevalent in many Western societies, as reflected in the fact that atheists comprise Americans' least popular group when contrasted with homosexuals, blacks, Jews, Muslims, immigrants, and others (Edgell et al. 2006). As Gervais (2011) demonstrates, anti-atheist prejudice among religious individuals is especially likely in societies with low levels of atheism. If anti-atheist prejudice and political intolerance are perceived by atheists as especially threatening, atheists should react more strongly than in the absence of such threats. In the political realm, where anti-atheists often profess a desire to withhold civil rights to atheists (Froese et al. 2008), atheists' reactions should serve to politicize their severely outnumbered minority group. Correspondingly, atheists who perceive a greater political threat from the religious majority in their respective societies experience a stronger incentive to participate in the political process, heightening the politicized component of their "symbolic world" (Bréchon 2003). Therefore, I offer the following hypotheses:

H11: In societies with higher levels of religiosity, avowed atheists tend to be more politicized than in less religious societies.

H12: In societies with higher levels of religiosity, avowed atheists tend to participate more actively in political affairs than in less religious societies.

Similarly, a powerful anti-atheist majority may exacerbate the reactive element of atheists' political preferences and ideologies. Atheists, who tend to place themselves further to the left than theists in every Western society (Bréchon 2003), are likely to react in stronger opposition to religiously conservative political rivals when those rivals retain large shares of political power. The likelihood of a political ideological gap between a small minority of atheists and a powerful majority of religious persons is further augmented by the groups' comparatively small set of shared preferences on salient political affairs. Furthermore, given the subjective nature of the left/right political spectrum, atheists in more religious societies will tend to perceive a "moderate" political ideology as further to the right than atheists in less religious societies, incentivizing members of the former group to place themselves further to the left than members of the latter group, assuming identical political ideologies across both atheist groups. This logic is formalized in the following hypothesis:

> **H13**: In societies with higher levels of religiosity, avowed atheists tend to place themselves further to the left on the left/right political spectrum than in less religious societies.

The following section will establish the methodology, measurements, and data used to test these hypotheses.

3.4: *Methods, Models, and Data*

***Methods**:*

In general, methods used to test the thirteen hypotheses of this chapter will mirror those used in Chapter 2. As in the previous chapter, the most appropriate methodology for testing these hypotheses requires hierarchical Bayesian modeling. The four-level hierarchical clustering utilized in Chapter 2 will be replicated for each of models used for testing the first eight hypotheses, which predict trends at the individual level of analysis (Level 1). For these models, Level 2 will comprise the country-year level; Level 3 describes the country-level of analysis; and the fourth level distinguishes formerly communist countries from those without histories of communist governance.

Models used for testing H9 through H13 predict trends at the country-level, and will therefore require two-level hierarchical models comprising the country-level and level distinguishing formerly communist countries from those without histories of communism. The use of the country-level of analysis for these models, as opposed to the country-year level, is due to the small number of avowed atheist respondents in many country years within the data series (with a minimum of six observed in Ireland, 1999). Given that these hypotheses predict cross-national trends of avowed atheist populations, the samples used for testing them will be limited to those identifying as "convinced atheists" (see the "Data" subsection below).

***Models**:*

A series of thirteen models is constructed, comprising one for each hypothesis. The first eight hypotheses will each utilize three sub-variants of their respective models in order to contrast the effects of avowed atheism with the isolated independent variables of each sub-hypothesis (i.e. avowed atheism, godlessness, and nonreligion). These sub-variants are required for distinguishing and contrasting the effects of the respective irreligion components. This requirement is a result of the inevitable overlap across observations in the avowed atheist and godless independent variables, as well as the overlap in the godless and nonreligious variables. However, it is important to note that the independent [dummy] variable discerning those who identify as "convinced atheists" will describe a subset wholly distinct from that identifying "not religious" subjects, given the mutual exclusiveness of these response options in the WVS/EVS survey instrument. These variables are discussed further in the "Independent Variables" subsection below.

The thirteen hypotheses require analysis at both the individual and macro levels. Hypotheses 1 through 8 concern individual-level trends and will be examined according to the beta and gamma coefficients of their respective irreligion component variables (i.e. avowed atheism, godlessness, and nonreligion). Hypotheses 9 through 13 aggregate the country-year values by country for all macro-level predictors (constructed in Chapter 2), including income inequality, GDP per capita, government intervention in religion (GIR), social welfare spending per capita, urbanization, and religious pluralism.

***Data**:*

As in the previous chapter, the primary data source used for obtaining values for all independent variables comprises the nine waves of the WVS/EVS survey data, conducted between 1981 and 2009. Values of income inequality, GDP per capita, GIR, social welfare spending, and religious pluralism are taken from the same data sources as those used in Chapter 2 and will therefore not be discussed any further in this section.

The first eight hypotheses of this chapter concern differences between avowed atheists and other groups *within* a common society, and will therefore use all cases available in the data series, mirroring the case selection of models used in the previous chapter. H9 through H13, however, anticipate different political behavioral attributes in avowed atheist populations *across* societies, and thus require samples of exclusively avowed atheists. That said, country-level measures of religiosity, prevalence of Roman Catholicism, and urbanization are calculated using gender weighted WVS/EVS means derived from the undivided data series.

Dependent Variables:

Dependent variables are all taken from WVS/EVS survey data and are compiled as follows. First, political participation (H1, H12) is measured using a conventional four-item index (alpha = 0.72) derived from the seminal work of Almond and Verba (1963) and includes measures for whether the respondent has, or is willing to, (1) sign a petition, (2) join a boycott, (3) attend a lawful demonstration, and/or (4) join an unofficial strike. The three-item politicization index (alpha = 0.73; H2, H11) is borrowed from Bréchon (2003) and comprises (1) the degree to which subjects are interested in politics, (2) the frequency of their political

discussions, and (3) the self-reported importance of politics in their lives. Left/right political ideology (H3, H13) is measured using a ten-point left/right self-placement scale. The nationalism index (alpha = 0.81; H4) is composed of three survey items: (1) the extent of one's national pride, (2) one's confidence in her/his respective nation's armed forces, and (3) one's level of agreement with the statement that employers should give priority to domestically-born prospective employees over immigrants.

Postmaterialism (H5) is measured using Inglehart's (2008) Postmaterialism Index, which classifies subjects into the three categories of "materialist," "mixed," and "postmaterialist" according to which two political priorities they claim when given the following four options: (1) maintaining order in the nation, (2) giving people more say in important political decisions, (3) fighting rising prices, and (4) protecting freedom of speech. Those who choose (2) and (4) as the most desirable are labeled "postmaterialists" while those who choose (1) and (3) are categorized as "materialists." Those choosing (1) and (4) or (2) and (3) are labeled "mixed." Materialists receive a value of 0 on the index, postmaterialists receive a 1, and respondents classified as mixed receive a 0.5.

The environmentalism index (r = 0.05; H6) comprises values from two survey items: (1) a four-point scale measuring subjects' willingness to contribute a portion of personal income to protect the environment, and (2) a four-point scale gauging confidence in the environmental conservation movement. The political tolerance index (alpha = 0.89; H7, H10) originates from Stouffer (1955) and consists of three items, each measuring support for extending civil liberties to a disliked group. These civil liberties include the freedoms to (1) host public demonstrations, (2) hold political office, and (3) teach in public schools. Finally, interpersonal trust (H8, H9) is

measured using a dichotomous variable gauging respondents' agreement or disagreement with the statement: "[m]ost people can be trusted."

All dependent variables are scaled to a range of zero to one at the individual level of analysis. Multi-item indices weigh each item equally. Missing responses and those marked as "don't know" for any single item are revalued to the median value of the pooled data for that item if observations are available for at least one item in the respective index. While this approach to missing data may be suboptimal, in part due to its tendency to proliferate values closer to the mean than actual population parameters, it serves as a simple metric for maximizing the number of observations. That said, the number of respondents represented by this interpolation technique never surpasses two hundred, and is most frequently less than one hundred. Observations with missing values or "don't know" responses for all items of an index are dropped from the data series used in the relevant model. Macro-level dependent variables (H9-H13) are calculated at the country level by giving equal weight to each respective country year mean. Country year means are weighted to reflect equal representation of male and female respondents.

Independent Variables:

As avowed atheism and disbelief in god(s) are treated as separate dependent variables in Chapter 2, they are here operationalized as distinct independent variables. These are calculated as dichotomous "dummy" variables and are complemented by a dummy variable for those identifying as "not religious." Due in part to the empirical overlap and in part to the likelihood of multicollinearity issues arising with the inclusion of all three of these "irreligion" variables in

the same model, separate variants of each relevant model are constructed to distinguish the effects of each irreligion component. Here, the avowal of atheism reflects a group identity as well as a decisively rejective posture towards mainstream religion. In contrast, disbelief in God does not imply self identification with an irreligious social faction, but rather a personal view or estimate concerning metaphysics. Identification as "not religious" denotes the weakest indicator of irreligiosity and is used to contrast the effects of both atheism components (ideology and identity) with mere nonreligion. Although the formal hypotheses refer primarily to the group identity component of atheism, the political significance of atheistic identity will be analyzed in comparison to that of atheistic ideology (unbelief in god(s)) as well as nonreligion.

Macro-level models (H9-H13) use the ten-item religiosity index (alpha = 0.88) from Chapter 2 as independent variables. These values are calculated at the country-level of analysis by weighting each relevant country year mean equally. Country-year means are weighted to represent male and female respondents in equal proportions.

Each independent variable is standardized at the level of analysis in which it is employed, resulting in a mean of zero and a standard deviation of one. Missing data and "don't know" responses are treated in the same manner as for the dependent variables. Slopes predicting the effects of the independent variables are calculated for each cluster at the highest level of the hierarchy, or that distinguishing formerly communist countries from those without histories of communism. This measure allows for a methodological distinction between the effects of organic atheism and those of atheism marked by a history of state coercion. A comparison of these slopes and any significant differences between them will be explored in the discussion of results.

Controls:

The selection of control variables will mirror that of Chapter 2. At the individual level of analysis used to test the first eight hypotheses of this chapter, controls are included for age, sex, marital status, education, income tertile, number of children, and urbanism. Given the potential of an historical impact of communism on the age distributions of atheists, the effects of age are permitted to vary across the two level-4 clusters. As in the second chapter, the effect of sex is permitted to vary by country year, due to the cross-national variations in the atheist "gender gap" demonstrated in Figures 1.2 and 1.3 and discussed in Chapter 1.

Controls for income inequality, GDP per capita, GIR, social welfare spending, prevalence of Roman Catholicism, survey year, and religiosity are calculated at the country-year level for models testing H1 through H8. Due to the potential historical effects of communism, the slope of the variable indicating survey year is randomized at the fourth level in these models. Furthermore, models testing hypotheses at the macro-level (H9-H13) include these country-year level controls (aside from survey year) aggregated at the country-level, weighting each country year equally. Also included in these macro-level models is a control for urbanization, derived from individual-level WVS/EVS data and calculated in the same manner as country-year level controls. Due to the disparate estimates for the effects of income inequality in the results of Chapter 2 (H3), all models allow income inequality to vary across the clustering of countries according their history (or lack thereof) of communism. Additionally, all models include a country-level control for religious pluralism, as calculated by Alesina and colleagues (2003).

A control for cultural religion is not included in the models used in this chapter due to the problematic endogeneity of this variable in relation to the independent variables. As the cultural religion index used in Chapter 2 describes those who affiliate with a religious identity yet do not consider religion important in their lives, it is likely to dampen any effects associated with nonreligion in the models' results. Furthermore, this variable performed rather weakly in the second chapter and is not theorized to bear any independent effect on the dependent variables.

3.5: Results and Discussion

Results

As in the second chapter, each model was run with two chains for a burn-in of 5,000 iterations and a sample of 20,000 iterations each. This section will follow the same pattern as its counterpart in the previous chapter, beginning with a presentation of the models' results and following with a discussion and interpretation of the empirical outcomes. Tables 3.01 and 3.02 provide informative charts of the hypotheses, their respective models, and the un/supportiveness of results. Unlike Chapter 2, each hypothesis in this chapter requires its own model. In fact, the first eight hypotheses are each tested using three models, resulting in a total of twenty-nine models. Results are presented in Tables 3.1 to 3.4.

Four level models

Eight of the thirteen hierarchical models used in this chapter contain all four levels of the formal model presented in Chapter 2. Each of these models contains a core form (Model 3.Xa),

using avowed atheism as the independent variable, and two variants, substituting avowed atheism for unbelief in god(s) (HXa: Model 3.Xb) and identification as "not a religious person" (HXb: Model 3.Xc), respectively. This allows for direct comparisons of the estimated parameters across the overlapping subgroups while avoiding the inevitable multicollinearity issues that would arise from including all independent variables in the same model.

Table 3.1 lists the results of Models 3.1, 3.2, and 3.3, testing H1, H2, and H3, respectively. Model 3.1 find highly significant ($p < 0.001$), positive political participation effects for all three of the irreligion variables. While minimal in their impact among formerly communist nations, the observed effects of the independent variables are of substantial magnitude in never-communist nations. H1 predicted that this effect would be strongest for avowed atheism. As Table 3.1 shows, this prediction holds true when comparing avowed atheism (Model 3.1a) to nonreligion (Model 3.1c). In never-communist countries, however, unbelief in god(s) demonstrates a stronger effect on participation (0.027: Model 3.1b) than both nonreligion (0.010) and avowed atheism (0.021). In formerly communist nations, the effects of avowed atheism (0.004) and godlessness (0.003) are not significantly different from one another, though both are marginally greater in magnitude than the observed effects of nonreligion (0.002). These mixed results provide only limited support for H1.

Several control variables attain significance and substantial weight in Model 3.1. In descending order of magnitude, citing estimates from the core model (as will be done henceforth), the highly significant ($p < 0.001$) individual-level controls include education (0.043), age (-0.032 in never-communist countries, -0.016 in formerly communist societies), femaleness (-0.018), income tertile (0.016), and urbanism (-0.010). The estimated effect of the variable measuring the number of children in the respondent's household (-0.001) is slightly

significant ($p < 0.05$), though insignificant in Model 3.1c, while the variable for marital status fails to attain significance in any of the variants.

At the country year-level, the prevalence of Catholicism is the only significant predictor observations across all nations in the sample (-0.030: $p < 0.001$). The year of the survey bears a strong effect on political participation in formerly communist nations (-0.050: $p < 0.001$), but yields no observable effect in their counterparts. The level-3 predictor, religious pluralism, fails to achieve statistical significance.

The results of Model 3.2 provide full support for H2, which predicted that among the three irreligion components, avowed atheism would bear the strongest positive correlation with politicization. While all three irreligion components yield positive and significant ($p < 0.001$) beta coefficients, avowed atheism emerges as the strongest predictor among never-communist nations (0.011, compared to 0.005 [nonreligion] and 0.007 [godlessness]). In formerly communist nations, each irreligion component is observed to bear the same positive impact on politicization (0.004: $p < 0.001$).

Individual-level controls in Model 3.2 yield similar estimates to those in Model 3.1. Education, age, femaleness, and income all yield highly significant ($p < 0.001$) estimates in Model 3.2, in the same directions and of similar magnitude to those of the prior model. However, in formerly communist nations, age bears twice the negative effect on politicization (-0.032) as it does on political participation (-0.016), as measured. Urbanism does not yield a significant predictor.

At the country-year level, all predictors attain some degree of statistical significance in one or more of Model 3.2's variants. Observing the core model (3.2a), per capita social welfare

spending yields the strongest estimate across the data series (0.032: $p < 0.001$), although the year of the survey demonstrates a stronger impact among formerly communist nations (-0.041: $p < 0.001$) and a substantial impact in the opposite direction among respondents in the never-communist nations (0.022 $p < 0.001$). Also highly significant ($p < 0.001$) in the model are the estimated effects of GDP per capita (0.012), proportion Catholic (-0.012), and religiosity (0.008). Inequality is slightly significant ($p < 0.05$) for both level-4 clusters though of little magnitude (0.002). Government intervention in the religious economy (GIR) yields a significant ($p < 0.05$) estimate only in the first variant of the model (0.006). Religious pluralism, the only country-level control, does not approach significance in any variant of Model 3.2.

Model 3.3 tests H3, which predicts that avowed atheism will bear a stronger correlation with leftist self-placement on the left/right political spectrum, relative to godlessness and nonreligious identification. The results tell a similar story as those of Model 3.1. Across both formerly communist and never-communist nations, the predictors for avowed atheism outperform nonreligion, though all are highly significant ($p < 0.001$) and in the expected direction. However, the magnitude of avowed atheism's predictor is surmounted by that of the godlessness independent variable (Model 3.3c) for both level-4 clusters. While the irreligion component variables were observed to bear markedly stronger political participation and politicization effects within never-communist countries in Models 3.1 and 3.2, the estimated effects of these variables are striking similar across the historical communist divide in the model predicting political ideology self-placement (Model 3.3). Effects of avowed atheism and nonreligion receive nearly identical estimates across level-4 clusters. Godlessness remains a stronger predictor for those in never-communist nations (-0.031), though retains substantial magnitude in formerly communist societies (-0.023).

Level-1 controls are generally of lesser magnitude in Model 3.3 than in the prior two models, though several attain significant predictors. Variables for income tertile, age, femaleness, education, and urbanism all yield highly significant ($p < 0.001$) predictors. Marital status and number of children in the household produce slightly significant ($p < 0.05$) effects in one and two of the model variants, respectively.

At the country-year level of Model 3.3, the prevalence of Catholicism demonstrates a significant ($p < 0.001$) leftward influence on political ideology. The passage of years within the timeframe of the data series similarly exerts a leftward (negative) influence on ideology, as does inequality among formerly communist countries, though the model's estimates of the latter effect are less persuasive, statistically. All other macro-level controls fail to attain statistical significance in the model.

Results of Models 3.4, 3.5, and 3.6 are displayed in Table 3.2. Predicting nationalism, Model 3.4 provides supportive evidence for H4. The observed negative effects of avowed atheism are greater in magnitude than those for nonreligion and godlessness. While all three irreligion components correlate with below average levels of nationalism, avowed atheism yields the strongest estimate for both never-communist (-0.019) and formerly communist (-0.007) nations. All individual-level controls achieve at least a moderate level of significance ($p < 0.01$) in each variant of Model 3.4, with education (-0.028) and age (0.026 in never-communist nations, 0.020 in formerly communist ones) demonstrating the strongest effects. Among the macro-level predictors, only religiosity (0.022) demonstrates a significant ($p < 0.01$) effect on nationalism.

Predicting Postmaterialism, Model 3.5 yields partial support for H5. Avowed atheism bears the most positive impact (0.016: $p < 0.001$) on the dependent variable for subjects in formerly communist countries, but is slightly outperformed by godlessness among formerly communist societies (0.007 relative to 0.008). While nonreligion yields positive and significant estimates for both level-4 clusters, the magnitudes of the predicted slopes are the least among the three independent variables. All individual-level controls yield highly significant ($p < 0.001$) estimates, with the strongest predictors for education (0.023) and age (-0.026 for formerly communist nations, -0.020 for all others).

At the second level of Model 3.5, the survey year, GDP per capita, social welfare spending per capita, Catholic prevalence, and religiosity all bear significant effects, with religiosity holding the strongest correlation (-0.015). Income inequality bears a negative effect among never-communist societies (-0.011), though fails to produce a significant effect in formerly communist nations. The country-year variable measuring religious pluralism is insignificant throughout the models' variants.

As predicted by H6, Model 3.6 suggests that avowed atheism occupies a more substantial positive correlation with environmentalism than godlessness and nonreligion. This trend is evident across both level-4 clusters, with highly significant ($p < 0.001$) beta coefficients of 0.021 for never-communist nations and 0.016 for formerly communist societies. Aside from the variable for income tertile, all individual-level control variables produce significant slope estimates, the strongest of which comprise education (0.011), femaleness (0.011), and age in never-communist societies (-0.024). At the country year-level, controls for social welfare spending per capita, proportion Catholic, and religiosity are all high significant ($p < 0.001$) and of similar magnitudes (0.008, 0.009, -0.007, respectively). All other controls at this level

produce insignificant slope estimates. At the country-level, religious pluralism attains slightly significant (p <0.05), positive predictors in Models 3.6a and 3.6b, but fails to achieve conventional measures of statistical significance in Model 3.6c.

Table 3.3 lists the results of Models 3.7 and 3.8. Predicting political tolerance, Model 3.7 offers moderate support for H7. All irreligion components demonstrate significant ($p < 0.001$) slope estimates in the expected (positive) direction, with the strongest predictors for each level-4 cluster belonging to avowed atheism. Predicted slopes of the independent variable measuring unbelief in god(s) are only slightly less in magnitude than those for avowed atheism for both level-4 clusters, and are not significantly different when using 95% confidence intervals.

All individual-level control variables of Model 3.7 are statistically significant ($p < 0.01$). The strongest predictors among these are for education (0.024), femaleness (-0.018), and urbanism (0.017). Concerning the macro-level variables, only the prevalence of Catholicism (-0.004) and the year of the survey, for formerly communist nations (0.004) attained significant slope estimates ($p < 0.05$).

Interpersonal trust, the dependent variable of Model 3.8, provides the strongest evidence for including the fourth level in the hierarchical model. Each irreligion component demonstrates a significant, positive effect with substantial magnitude for never-communist countries, but fails to achieve significance for formerly communist nations. The strongest predictor among the three independent variables is that for avowed atheism, offering partial support for H8. All level-1 predictors aside from urbanism yield statistically significant ($p < 0.001$) beta coefficients, with education and age performing the strongest.

At the macro-levels, four predictors attain some level of statistical significance across all clusters in Model 3.8. These comprise Catholic prevalence (-0.006: $p < 0.001$), religiosity (0.004: $p < 0.001$), per capita GDP (0.012: $p < 0.01$), and per capita social welfare spending (0.009: $p < 0.05$). For formerly communist countries, the survey year coefficient (-0.005) also retains significance ($p < 0.001$). For never-communist countries, inequality demonstrates a negative effect on interpersonal trust (-0.009: $p < 0.001$). All other macro-level control variables fail to exhibit significant independent effects in the model.

Collectively, the several variants of each four level model yield similar parameter estimates as their corresponding models. This is fortunate as it allows for direct comparisons of the predicted slopes for each irreligion component. A nuanced analysis of these results will follow in the discussion section below.

Two level models

Although the five remaining hypotheses utilize data from both the individual-level and country year-level, the models constructed for their tests predict country-level dependent variables. As discussed in section 3.4, the principal reason for this lies in the truncated sample used in these models, which comprises only avowed atheists. The small number of avowed atheists in many country years compels the aggregation of country-year clusters. These models (3.9-3.13) contrast the political behavioral attributes of avowed atheist populations in a cross-national, comparative research design. The religiosity index, compiled using individual-level data from the undivided sample, serves as the independent variable in each remaining model. Although the number of countries represented remains at thirty, dependent variable values derive

from far fewer respondents than in previous models, with a pool ranging from 5,718 (Model 3.10) to 9,799 (Model 3.11). The historical communism divide maintains its position as the macro-level clustering criterion, though here comprises the second level of the model.

Predicting differences in interpersonal trust across atheist populations, Model 3.9 fails to provide support for H9, which anticipates a negative effect of societal religiosity on interpersonal trust. The religiosity index produces a statistically insignificant result. In fact, only two slope parameters attain conventional standards of statistical significance ($p < 0.05$): those measuring Catholic prevalence (-0.008) and per capita social welfare spending (0.003).

Model 3.10, predicting political tolerance, offers slightly more predictive power, but also fails to support the hypotheses tested. H10 predicts a negative impact of societal religiosity on political tolerance, but the model's results find no significant effect of the independent variable. Of the three significant predictors in the model, Catholic prevalence is the strongest (-0.010: $p < 0.001$), followed by per capita GDP (0.007: $p < 0.001$) and, for atheist populations in never-communist societies, income inequality (-0.006: $p < 0.01$).

The politicization of avowed atheist populations does appear to bear impact from the religiosity of society, according to the results of Model 3.11. As hypothesized in H11, societal religiosity demonstrates a positive impact (0.012: $p < 0.001$) on politicization, serving as the strongest predictor in the model. Additionally, the prevalence of Catholicism shows a positive correlation with the politicization index (0.009: $p < 0.001$) while per capita GDP exhibits a slightly negative effect (-0.005: $p < 0.05$).

The religiosity of society also appears to correlate directly with the political participation of avowed atheists. Providing supportive evidence for H12, Model 3.12 identifies societal

religiosity as the strongest predictor of political participation, with a coefficient of 0.009 ($p < 0.001$). Also significant in the model are predictors for GDP per capita (0.002: $p < 0.001$), Catholic prevalence (0.003: $p < 0.01$), and inequality among never-communist nations (-0.005: $p < 0.001$).

Lastly, Model 3.13 yields supportive evidence for H13, which predicts that higher levels of societal religiosity tend to coincide with atheist populations further to the left on the political spectrum. The slope for religiosity is strongest in this model, as well, yielding an estimated coefficient of -0.016 ($p < 0.001$). The model's results further identify the prevalence of Catholicism (-0.007: $p < 0.001$) and income inequality as significant influences on the political ideologies of atheist populations, the latter of which bears a stronger effect upon atheist populations in formerly communist nations (0.005: $p < 0.001$) than upon those residing in never-communist nations (0.004: $p < 0.05$).

Discussion

On the whole, the empirical results of this chapter's models provided largely supportive results for the series of hypotheses. Seven of the thirteen hypotheses received full support from the models, while four were partially supported. Only two hypotheses, H9 and H10, failed to garner any favorable evidence in the results. Of the four receiving partial support, two were fully supported in parameter estimates for never-communist countries: that predicting trends in Postmaterialism (H5) and that predicting patterns of interpersonal trust (H8). Unexpected outcomes in parameter values for former communist countries limited the supportiveness of evidence in these models. It is worth noting here that, although both coerced and organic

atheism are subject of theoretical inquiry throughout this research design, the formulation of hypotheses emphasize theorized characteristics of the organic variety. Perhaps this emphasis led to an unintended disregard for the distinct facets of coerced atheism. It is possible that the models would perform better using only the never-communist societies in the data series. However, the scope of this research design is confined only to Western nations, as it intends to provide a broad overview of atheism and politics in the West.

Among the political behavior attributes operationalized as dependent variables, politicization proved the most successful, yielding undivided support from the two models in which it was predicted (H2, H11). However, all attributes studied receive empirical evidence corroborating the projections section 3.3. Relative to the general population as well as those identifying as "not religious," avowed atheists are here observed to be more participatory in political processes (H1), more politicized (H2), further to the left on the political spectrum (H3), less nationalistic (H4), more postmaterialist (H5), more environmentalist (H6), more politically tolerant (H7), and more trusting (H8).

Unbelief in god(s) appears to rival the impact of atheistic identity in several areas of political behavior. For instance, the variable for godlessness outperforms that for avowed atheism in never-communist countries in Model 3.1, predicting political participation, and in all countries in Model 3.3, predicting left/right self placement. Coefficients for the godlessness variable are particularly strong in these models. These results are truly surprising, given the propositions regarding atheism as a political group identity. A political identity should serve to unify its affiliates. A lack of belief does not comprise a political identity, and was predicted to yield weaker effects on political views and actions than the group label indicating unbelief. If the ideological component of atheism bears substantial independent effects on political behavior,

as Models 3.1 and 3.3 suggest, the phenomenon warrants close empirical examination in future research. These results emphasize the need to differentiate identity from ideology in studies of atheism, albeit in an unexpected way.

The religiosity of a given society was theorized to influence the political behaviors of atheists within that society. As H11 of Chapter 2 showed, nonbelievers demonstrate a greater likelihood of identifying as atheists in more religious environments. Models 3.11 – 3.13 provide further insight into this intergroup dynamic, suggesting that the ubiquity and intensity of religiosity in a society bears a direct impact on the politicization, political participation, and political ideology of its avowed atheists. When they are outnumbered most severely by a fervently religious majority, atheists seem to collaborate politically, concentrating around a more polarized political identity and engaging more actively in politics.

While the two level models generally provide less predictive power than their four-level counterparts, they are successful in providing supportive evidence for three of the five hypotheses tested within their constructs. They also offer the first crossnational comparative evaluations of atheist populations' political behaviors, revealing multiple significant correlations between sociopolitical factors and behavioral outcomes in the political sphere. In doing so, the findings presented here offer a promising foundation for future comparative analysis of atheist populations.

3.6: Conclusion

Despite promising signs of improvement, most of the extant social science scholarship on religion and secularism assigns all nonreligious individuals to the same group category. The rise

of secularization in the West brings with it a diversity of secularism, with varying degrees of irreligion, secular group identification, and patterns of political behavior. To better understand the social processes contributing to this diversity, a necessary first step requires a more nuanced view of the nonreligious, generally, and the nonbelievers, in particular. This chapter has bolstered the claim that the nonreligious are far from a uniform group. It has emphasized the distinct roles of beliefs and identities, contending that the relevance of this distinction should manifest in the political realm. Empirical results largely support the central claims of this dissertation.

An integrated overview of the findings of Chapters 2 and 3, and their place in the literature will comprise the concluding fourth chapter.

CHAPTER 4: CONCLUSION

Was the universe intentionally created for mankind, or is mankind the blind creation of the universe? While such a grandiose philosophical question certainly lies outside the scope of political science, disagreements over its true answer bear enormous political ramifications. Since the dawn of history, the mysteries of the cosmos have made enemies of strangers, cultivating mutually exclusive explanations that often divide communities in bitter rivalries. After all, religious disagreements concern the most basic elements of existence, including the purpose of life, the existence and demands of god(s) or deities, the origins of humanity, proper social and political order, and the nature of death.

The epistemological gap between Christianity and atheism is especially pronounced among theological divides. For most practicing Christians, the entire universe is believed to be the creation of a supernatural being, who bestows eternal rewards and punishments after death according to the moral and theological criteria set forth in the Christian bible, particularly a morality conveyed two thousand years ago by God's son, Jesus of Nazareth. For the atheist, no supernatural being is believed to exist, humanity is not the culmination of a divine plan, and no final judgment is anticipated after death. The critical differences in these perspectives appear logically irreconcilable (see: Shook 2012). Yet atheists and Christians coexist nonviolently throughout political systems of the Western world. With these considerations in mind, one can reasonably expect some political divisions to parallel the Christian/atheist divide.

The drawing of links between theological views and political preferences is beyond the scope of this investigation (see: Froese et al. 2008). Rather, this study set out to locate the manifestation of such links by identifying political patterns across religiously opposed groups, discerning the roles of unbelief, societal religiosity, and ir/religious group identification. The interactive relationship between atheism and politics in the West was here investigated using theoretical constructs and analytical tools from the scholarship on religion and secularization. In particular, the study sought to gain insight into the sociopolitical causes and effects of atheist group identification, atheistic worldviews, and religious disaffiliation. The politics of atheism is a notoriously understudied subject in the social sciences, typified by the indiscriminate pooling of avowed atheists and other nonreligious individuals in most of the relevant studies. The demonstrable growth of Western atheism during recent decades bolsters the salience of this field of study. In attempt to bridge the widest gaps in our scholarly understanding of atheism in politics, two general research questions were posed:

1. Who are the atheists, and what sociopolitical factors influence their societal prevalence?
2. How does atheism relate to political engagement?

This chapter will identify and integrate several new pieces to these puzzles while describing the collective relevance of this study's empirical results. This final chapter will proceed by first, discussing the meaning of new findings in the context of our understanding of atheism in Western politics. Next, the discussion turns to the implications of these findings in regards to the social scientific study of atheism, particularly in regards to the use of secularization theory as an analytic construct. Following is a brief synopsis of the strengths and weaknesses of the methodologies employed, including general observations of the lessons learned for future empirical investigations of similar research questions. This leads to a review

of the limitations of the findings and the inferences drawn from them, offering potential solutions to the most severe restrictions in the research design. A brief concluding paragraph completes the text.

Contributions to our Understanding of Atheism

Who are the atheists, and how do they relate to politics? Perhaps the most important characteristic demonstrated in this research is their distinctiveness from other nonreligious individuals. The often ignored diversity of unbelief warrants closer scrutiny in view of the findings presented. Although atheists tend to deviate from societal averages in the same direction as broadly defined nonreligious populations, they do so with greater magnitude. For instance, the nonreligious tend to be well educated, young, male, and somewhat urbanized relative to the religious. Avowed atheists, in comparison, are even more educated, younger, more often male, and more urbanized than the nonreligious in the societies represented in this study. Moreover, the consistency of these trends across societies offers strong support for the conceptualization of avowed atheism as a supranational political group identity.

In examining the diversity of unbelief, the conceptual importance of distinguishing those who identify as atheists from those without belief in god(s) is further corroborated by this study. The political implications of atheist identity and those of atheistic ideology are demonstrably different. Avowed atheists, or nonbelievers in god(s) who label themselves "convinced atheists," tend to be more politicized, environmentalist, politically tolerant, and less nationalist than unavowed atheists, the nonreligious, and the religious. Surprisingly, however, unavowed atheists

tend to place themselves further to the left on the left/right political spectrum than avowed atheists and all other [non]religious subpopulations analyzed.

No serious inquiry into the relationship between atheism and Western politics can afford to neglect the historical legacy of communist governance. Organic and coerced atheism maintain substantially different foundations in society, so it is not surprising that atheists in formerly communist societies tend to relate to politics differently than atheists in never-communist societies. For example, in formerly communist societies, unbelief in god(s) is more strongly correlated with postmaterialist values than avowed atheism. In never-communist societies, avowed atheism yields a stronger correlation with postmaterialism. This difference goes to show that atheist self-identification bears different implications across the historic communist divide. The socially progressive normative priorities embodied in postmaterialism reflect a departure from the ideals of prior generations. In never-communist societies, atheistic identity similarly appears progressive, if not iconoclastic. Residents of formerly-communist countries are more inclined to perceive "convinced atheism" as a relic of communist history, perhaps even as a reactionary position. Those who espouse progressive postmaterialist values, therefore, are less likely to adopt atheistic identities when the "atheist" label represents a communist ideology of the past.

A common, though largely untested assumption about avowed atheism is that it represents retaliation against religion in society (see: Bruce 2002, 41-44). Several findings from this research inquiry suggest that, to some degree, atheist identification does indicate a reactive stance towards religion's presence in society. For instance, the previous chapter demonstrates that the political behavior of avowed atheist populations is conditioned, in part, by the national religious climate. In more religious societies, avowed atheists tend to be more politicized and

participate more actively in political affairs, compared to avowed atheists in less religious societies. Furthermore, as the religiosity of a society increases, avowed atheists tend to place themselves further to the left on a left/right spectrum of political ideology. Considering the respective roles of ideology and identity, atheistic identification produces a greater deviation from the societal norm than atheistic ideology in regards to issues concerning the environment, nationalism, political tolerance, and politicization.

In fact, the atheist self-labeling process itself is conditioned by both the political and religious climates. As H11 of Chapter 2 anticipates, the religiosity of society exhibits a positive correlation with the proportion of avowed atheists among those without belief in god(s). Independently, this particular finding may indicate nothing more than an incentive to take a position in the "god debates," conditioned by the social salience of religious beliefs. Considering avowed atheists' higher rates of politicization, participation, and leftist ideology in religious societies (Chapter 3), however, these findings collectively support the notion of atheist identity as a reactive stance towards religion. Moreover, atheistic identity demonstrates a set of shared supranational political preferences throughout the West, particularly in regards to environmentalism, postmaterialist values, and generally left-of-center political agendas. Atheism may be partly responsible, but atheist-*ism* appears to exert sizable independent influence on political behavior.

When right-of-center parties govern societies with large religious populations, nonbelievers are more likely to "come out" as atheists. As atheists, they are often explicitly alienated by right wing political actors. Atheists reject many moral positions frequently incorporated into the policy agendas of right-of-center parties. Avowed atheists are especially opposed to religion's political influence when proposed legislation challenges the degree of

secularity in government (Galan 2009). In regards to ideological self-placement, however, atheism—rather than atheist-*ism*—appears to be the force driving nonbelievers leftward (Chapter 3, H3). This observance underlies the importance of distinguishing atheistic identity from atheistic worldviews. Moreover, it suggests the political agendas of atheistic identifiers are more complex than the left/right political spectrum is capable of illustrating. Specific policy objectives and political values, rather than general political ideologies, seem to play a stronger role in uniting avowed atheists in the political realm.

Significance within the Study of Atheism

Although the scholarly investigation of atheism has evaded most empirical work on religion and secularization, there has been no shortage of speculation over atheism's relationship to politics. One common understanding perceives atheism as the "spearhead of secularization, as science supposedly sweeps away the superstitions of the past" (Bainbridge 2005, 5). This general supposition dates back at least as far as the works of Karl Marx (1818-1883), Max Weber (1864-1920), and Émile Durkheim (1858-1917), whose historically deterministic predictions entail the total victory of scientific rationalism over religious faith. Contemporary political scientists avoid the trap of forecasting unidirectional, inevitable social changes. Additionally, they typically avoid associating godlessness with the decline of religious institutions. Even Steve Bruce, secularization theorist and author of *God is Dead* (2002), refrains from establishing a theoretical mechanism linking atheism to secularization, contending only that the former serves as an "interesting secondary indicator" of the latter (43). That said, secularization is often perceived as a serious threat to the future viability of religious observance

in the West (Zuckerman 2010; Paul and Zuckerman 2007; Norris and Inglehart 2004; Bruce 2002).

The findings of this study suggest that politicized atheism, as typified by atheist group identifiers, may indeed act as a spearhead of the secularization process. Increases in the prevalence of avowed atheism may indicate an active state of secularization, reflecting a divisive clash between proponents of scientific rationalism and affiliates of religious institutions. But there is reason to believe that atheism is more than an indicator of society's secularity; atheism itself may help drive the secularization process. When unbelief characterizes a group label internalized by a substantial number of in-group members, atheistic sociopolitical factions may very well catalyze religious disaffiliation among religious adherents. This catalysis is the outcome of a complicated social process, rather than the direct outcome of atheist groups' "de-evangelizing" efforts.

Empirical evidence suggestive of atheism's instrumentality in the secularization process abounds. For instance, typical indicators of secularization, such as declining rates of church attendance and subjective measures of religion's perceived importance in life, are most evident among younger, more educated, economically secure males residing in cities with relatively high population densities (Bruce 2002). These demographic patterns are especially pronounced among avowed atheists. Even among the nonreligious, avowed atheists are the most politicized, active groups in politics, sharing a common set of policy preferences across national borders. If the "New Atheism" movement is leading nonbelievers to identify as atheists, it likely bears the potential to proliferate religious doubt and criticism among less irreligious individuals, particularly the young peers of "New" atheists whose religious beliefs have not yet crystallized.

The schematic model of atheist identity construction (Smith 2011) demonstrates one potential framework for analyzing the mechanisms of avowed atheism in society.

An ongoing debate at the center of secularization scholarship concerns the relationship between secularization and religious beliefs. Secularization necessarily entails a decline in religious observance, but some argue that religious beliefs exhibit resilience to the secularizing of public life. Such arguments claim that individuals are increasingly "believing without belonging" in the postindustrial world, and that declines in religious attendance may affect the power of religious institutions, but they fail to portray the undermining of core religious beliefs (Davie 1994; Witham 2010; Stark and Finke 2000). On the opposite side of the debate, some scholars of secularization theory claim the weakening of religious institutions implies a nearly irreversible decline of dogmatic religious belief (Paul and Zuckerman 2007; Bruce 2002). This study addressed the debate by posing the following questions: (1) does the secularization of society reduce the prevalence of belief in god(s)? and (2) do the causal mechanisms of secularization also promote atheistic worldviews?

Taken together, the results of the second chapter support positive responses to both questions. Economic security, social welfare spending, urbanization, and education, each of which is a theorized mechanism and/or indicator of secularization, are all positively associated with rates of unbelief. Moreover, the degree of secularization of society, as measured by the secularization index, correlates directly with an individual's likelihood of expressing unbelief in god(s) (H1). The mere presence of atheists may be seen as a threat to religion to some, as Sherkat (2008) proposes: "[d]oubt and certainty are critical for the assessment of religious value because high levels of doubt will decrease the value of religious explanations" (439). It appears that at the very least, unbelief in god(s) is an externality of the secularization process.

Of the two major theories applied to the study of atheism in this research design, secularization theory vastly outperformed the supply side religious economy school. Though typically used to explain trends in religion and nonreligion, both theoretical frameworks proved capable of deriving testable hypotheses about atheism without abandoning the core axioms of each respective theoretical tradition. The two central variables of supply side religious economy theory—government intervention in religion and religious pluralism—fail to demonstrate any substantial influence on atheism or atheists. On the other hand, secularization theory tends to explain crossnational variations in atheism quite well. The empirical accuracy of those predictions derived from secularization theory further corroborates the alleged codependence of atheism and secularization in the West.

These findings do not necessarily imply that atheism is a threat to future of religion. For one, atheists tend to be unmarried, male, and without children. Considering the high levels of cross-generational consistency in religious identities (Norris and Inglehart 2004), these attributes comprise disadvantages for the proliferation of atheism. However, previous scholarship shows that of all religious groups, the nonreligious are most likely to be apostates, having been raised in religious households more often than not (Zuckerman 2008). Furthermore, as highly educated and economically secure individuals, atheists likely hold disproportionately high levels of influence in the "marketplace of ideas." The net sum of these opposing forces has yet to be determined, though atheism does appear to be on the rise throughout the West (Paul and Zuckerman 2007). In most Western democratic political systems, avowed atheism has never had a seat at the policymaking table. Although atheists' intra-group organization remains rather weak (see Zuckerman 2010; Greeley 2003; Bruce 2002), the social impacts of politicized atheism remain to be seen.

This research demonstrates that atheism may indeed comprise a threat to organized religion. At the very least, rises in the prevalence of atheism imply stronger challenges to the political policy preferences of religious voting blocs. Furthermore, the advanced secularization of many Western societies tends to accompany diminished rates of religious belief, as typified by belief in god(s). Atheism as a social phenomenon is inextricably linked to the secularization process, whether as a catalyst, a consequence, or both. The avowal of atheism among nonbelievers is conditioned by the religiosity of society and might therefore parallel trends in the sizes of religious populations. However, any speculation regarding such grand themes as the demise of belief in god(s) is unwarranted within the scope of this work. The debate over the future of religion and atheism will continue unabated in the wake of this research.

Methodological Lessons

The cross-national comparative research design employed in this analysis provides an insightful application of hierarchical linear modeling using Bayesian estimation. A comparison of results obtained from a corresponding frequentist model demonstrates an advantage belonging to the Bayesian methods, which yield more conservative standard errors for predictors of similar magnitudes. Furthermore, the clustering of communist and noncommunist societies in the hierarchical data reveals significant differences between organic and coerced atheism. For instance, the effects of time, income inequality, and age each demonstrate significant variation across the communist divide in one or more of the empirical models, oftentimes with significant estimates for each cluster bearing opposite signs.

If anything, the importance of accounting for communist history is underappreciated in this research design. In light of the vast disparities portrayed by the results, the most readily apparent solution for future research designs is to limit the scope of the research question to either formerly communist or never communist societies. Our social scientific understanding of atheism is not yet rich enough to control for the immense differences between being an atheist in the former Soviet Union, for instance, and being an atheist in Ireland. It should be noted that organic atheism, represented best by avowed atheists in never-communist countries, here demonstrates the strongest links to secularization. Coerced atheism, as epitomized by unavowed atheists in formerly communist societies, shares much in common with the politics of organic atheism, but probably muddles the results of some models more than it contributes.

A longitudinal analysis of atheist identification as a political outcome could potentially offer a great deal of insight into the interaction of atheism and politics. Available survey data for large *n* cross-national studies dates back at least three decades, during which countless political and social changes influenced public opinion. The methods employed in this study account for time as an independent variable, with different predictors for formerly communist and noncommunist countries, respectively. In addition, the country-year level clusters are expected to absorb some of the unaccounted endogeneity of nonlinear changes over time. However, the changes themselves are of great interest to the study of atheism. This study provides promising signs for our ability to predict trends in atheist identity with political variables, and vice versa. Time is of the essence for maximizing leverage in future research designs.

An ideal test of the interaction between atheism and the several relevant political variables requires a time-series model with lagged dependent variables. This type of model works best with annual level data, and therefore is most practical for a design using a national

sample. A closer look at country level changes in atheism over time precedes any further constructive speculation about the future supranational politics of atheism. An improved methodology for examining the research questions entertained in Chapter 2 would account for time by entertaining an exponential time effect as well as cross-level time interactions with independent variables whose effects are prone to change over time (e.g. age of respondent).

Limitations and Future Work

It is important to consider the limitations of this study's research design and confront the major caveats for drawing inferences from its results. First of all, the thirty countries are not equally represented in the data series. After integrating the nine waves of the WVS/EVS surveys, some countries include six country years while others, only two (and everything in between). Survey years are scattered across space and time. Thus the "West" represented here is a rather distorted conglomerate of various Western societies over the course of twenty-eight years. This approach maximized the number of atheists in the data series, which proved necessary for the testing of several hypotheses in Chapter 3. However, the particular sample of country years used is less than ideal. A more geographically focused analysis might explore additional sources of data.

Although this study successfully demonstrates that avowed atheists represent a distinct political group among the nonreligious, the reasons for this distinction remain somewhat unclear. Nonbelievers who already hold the political views most common among avowed atheists may be more inclined to "come out atheist." On the other hand, the adoption of an atheist group identity may encourage the internalization of a political outlook. The direction of causality in the

observed relationships between atheist identification and the political behaviors of avowed atheists warrants closer scrutiny. For now, let it suffice to say that avowed atheists are highly engaged in politics and tend to share a common set of political views.

The surprisingly strong predictors for Catholicism shed light on an additional limitation of the study. The reasons for Catholicism's influence on avowed atheism remain unknown, though several potential explanations were entertained in Chapter 2. Much could be gained through an analysis of apostasy among atheists raised in Roman Catholic and Protestant (and Orthodox, data permitting) households, respectively. Furthermore, the observed impacts of Catholicism suggest that secularization theorists retain the Catholic/Protestant divide in their comparative research designs, as a control variable if nothing else. A survey instrument designed for formerly Catholic atheists could provide insight into the positive correlation between the prevalence of Catholicism and the avowal of atheism among nonbelievers.

This study should serve as a caveat of the importance of distinguishing atheist identity from unbelief in god(s). Throughout the text, various conceptual considerations and empirical observations regarding each component of atheism demonstrate the need to draw this distinction. Even if only one component is of interest to the research question, the difference between the two should be made explicit. Previous works (e.g. Stark 1999a; Stark and Finke 2000; Greeley 2003) have often ignored this distinction, measuring the strength of atheist ideology as the population of "convinced atheists." The variations observed in the political behavior of avowed atheists and nonbelievers substantiate the importance of including this distinction.

Although operationalizing the label of "convinced atheist" provides an interesting angle into the political dynamics of irreligion, the classification describes only a small portion of the

nonreligious population. Investigation into other secular group labels and how they relate to politics could contribute to our understanding of group identities linked to the secularization process. Several survey instruments, including the Eurobarometer, frequently include "agnostic" as a response option to a similar question. A parallel analysis of agnostics and atheists across societies could uncover the political manifestations of avowed atheism's reactive element, given agnosticism's less irreligious connotation.

Closing:

Atheism has long appeared as a footnote in the literature on secularization. Scholars of secularization theory tend to make a dutiful mention of atheism's existence before declaring its irrelevance to the secularization process. Ironically, secularization theory performs remarkably well when used to predict variations in atheism across societies. Atheism appears to play a more central role in the secularization process than the extant scholarship acknowledges. Political behaviorists frequently pool nonreligious individuals indiscriminately, ignoring the diversity of irreligion. As a political group, avowed atheists are quite distinct among the religiously unaffiliated, exhibiting consistent trends across national boundaries. Their numbers remain rather small in most nations, but avowed atheists comprise a cohesive, politicized supranational group with considerable momentum in the West. Despite the often perceived threat of avowed atheism to the future of religious institutions, the decline of religious observance poses an even greater threat to the future of atheist group identification. Though avowed atheists' are nearly unanimous in their support for secularism, the politics of atheism are inevitably immersed in religion.

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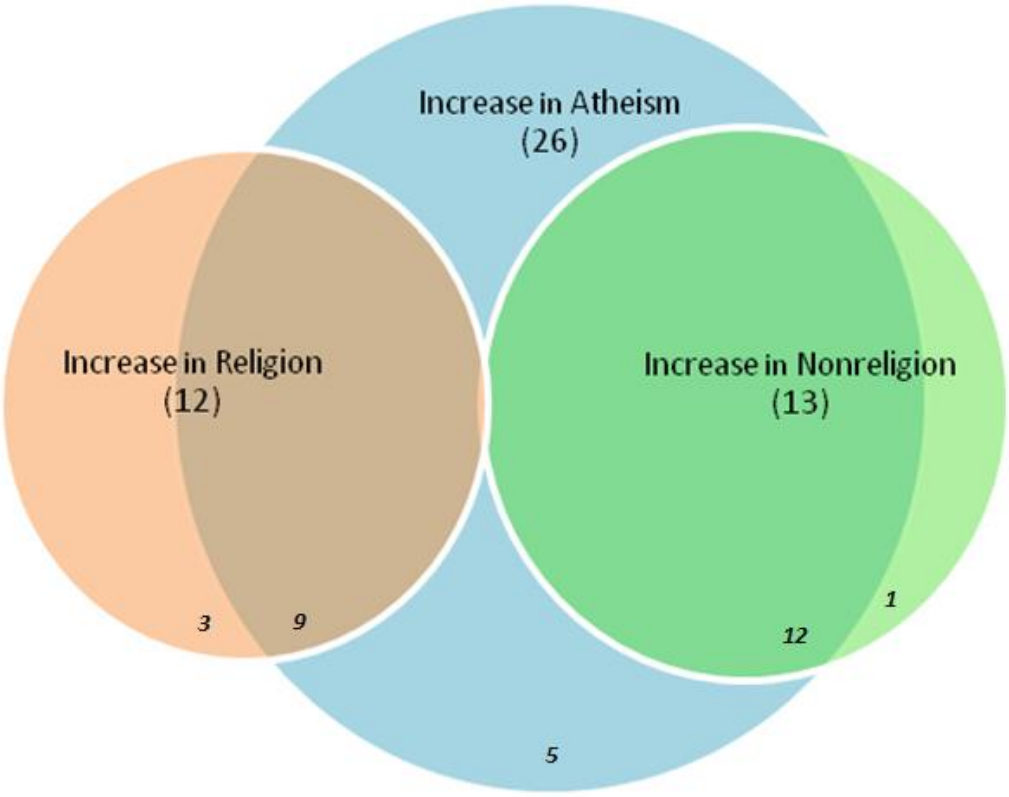
APPENDIX

Figure 0.1

Changes in Religious Identities in 30 Western Societies over Time*

1990s-2000s



*Note: numbers in parentheses represent the total number of countries within the respective sets (circle). The smaller, italicized numbers seen in the lower half of the figure represent the number of countries in each respective region, or subset. None of the thirty countries under study witnessed an increase in both religion and nonreligion across the time period, according to gender-weighted country-year means calculated using WVS/EVS data. Figures are constructed by subtracting average national proportions of each respective category across available data for the 1990s from the corresponding data for the first decade of the 2000s.

Figure 0.2: Mean Proportions of Religious and Nonreligious Identities in Thirty Western Nations across Two Decades

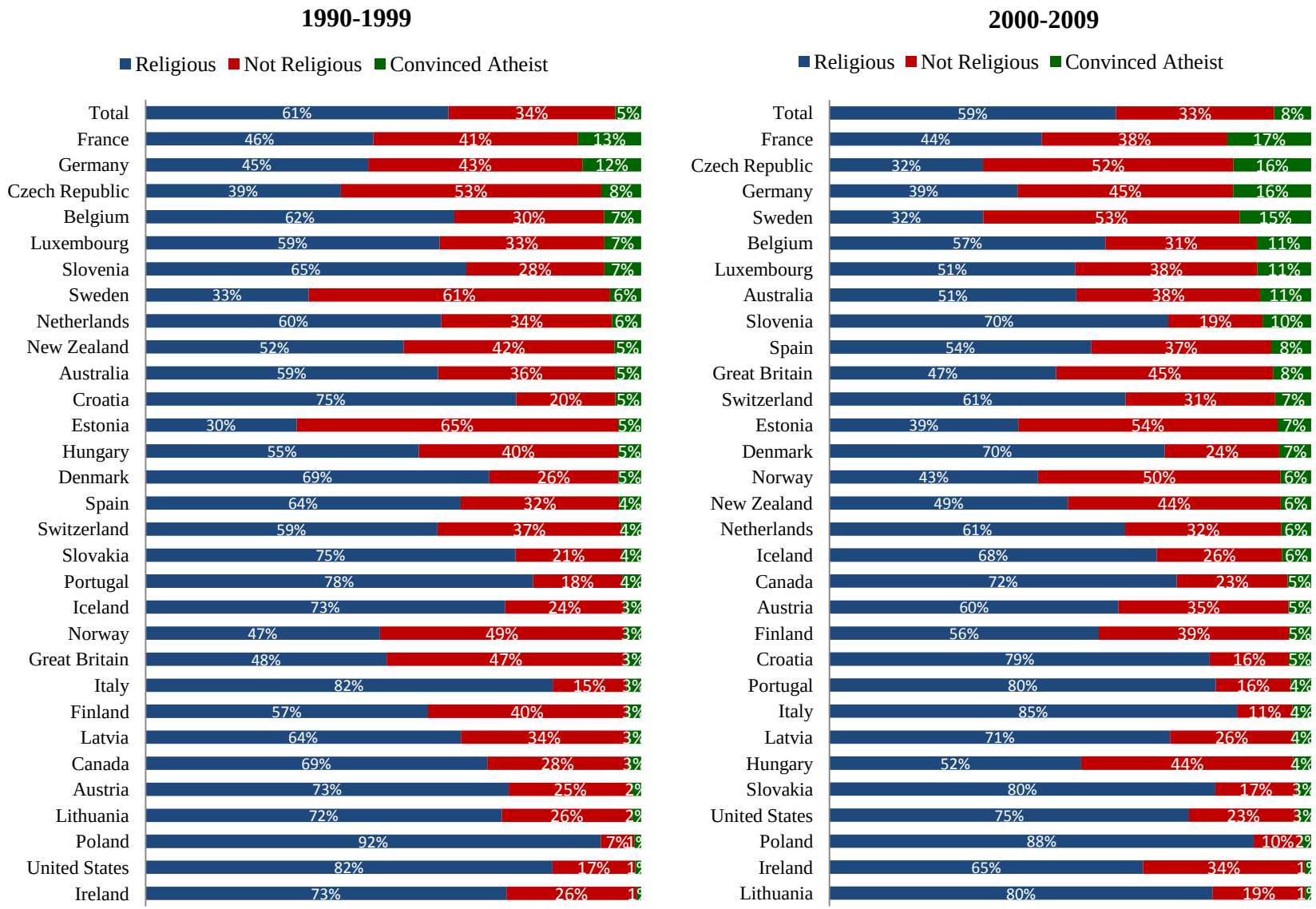


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Figure 0.3

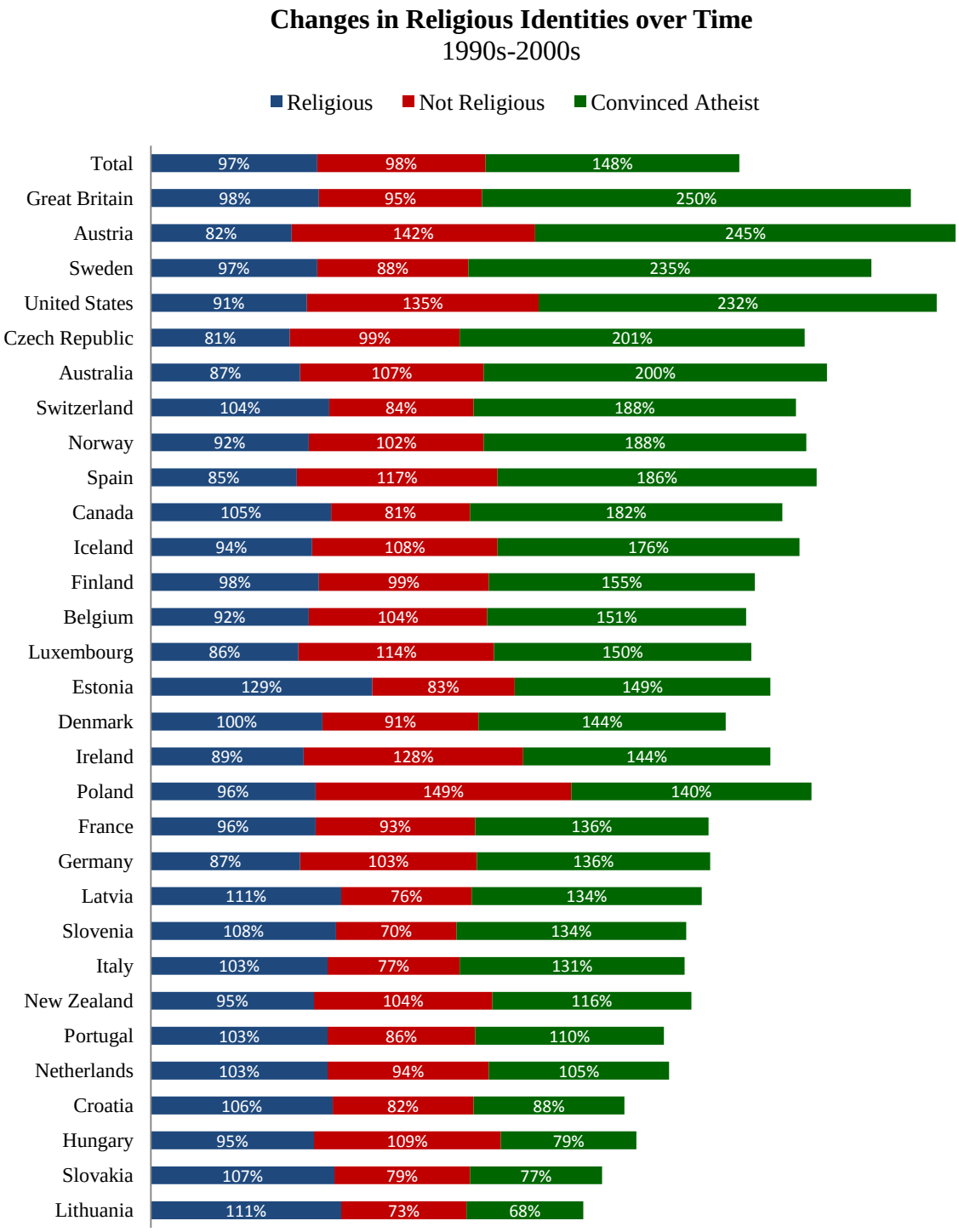
Changes in Religious Identities over Time
1990s-2000s
Religious
Not Religious
Convinced Atheist
Total 97% 98% 148%
Great Britain 98% 95% 250%
Austria 82% 142% 245%
Sweden 97% 88% 235%
United States 91% 135% 232%
Czech Republic 81% 99% 201%
Australia 87% 107% 200%
Switzerland 104% 84% 188%
Norway 92% 102% 188%
Spain 85% 117% 186%
Canada 105% 81% 182%
Iceland 94% 108% 176%
Finland 98% 99% 155%
Belgium 92% 104% 151%
Luxembourg 86% 114% 150%
Estonia 129% 83% 149%
Denmark 100% 91% 144%
Ireland 89% 128% 144%
Poland 96% 149% 140%
France 96% 93% 136%
Germany 87% 103% 136%
Latvia 111% 76% 134%
Slovenia 108% 70% 134%
Italy 103% 77% 131%
New Zealand 95% 104% 116%
Portugal 103% 86% 110%
Netherlands 103% 94% 105%
Croatia 106% 82% 88%
Hungary 95% 109% 79%
Slovakia 107% 79% 77%
Lithuania 111% 73% 68%

Table 1.1

Selected Cases for Quantitative Analysis

30 Western* Nations from the EVS/WVS

Country/Region	Observations	Country Years
Australia	4,697	3
Austria	4,492	3
Belgium	7,358	4
Canada	7,079	4
Croatia	3,724	3
Czech Republic	7,909	5
Denmark	4,742	4
Estonia	4,552	4
Finland	5,176	5
France	6,319	5
Germany	11,638	5
Hungary	4,976	4
Iceland	2,703	3
Ireland	4,242	4
Italy	7,897	5
Latvia	4,622	4
Lithuania	4,527	4
Luxembourg	2,821	2
Netherlands	5,845	5
New Zealand	2,155	2
Norway	5,532	5
Poland	6,678	6
Portugal	3,738	3
Slovakia	5,071	4
Slovenia	5,451	5
Spain	12,770	7
Sweden	6,215	6
Switzerland	5,125	4
Great Britain	7,346	6
United States	8,155	5
Total	*173,555*	*129*

**as classified by Huntington (1996)*

Table 1.2

Secularity and Religiosity in 30 Western Societies[1]
1981-2009[2]

Country	*Godless*	*"Convinced Atheist"*	*Religious*
Czech Republic	66.5 %	9.9 %	37.7 %
Estonia	55.3	5.9	33.6
Sweden	54.8	9.3	32.4
Germany	50.9	13.6	42.8
France	44.2	14.3	45.6
Denmark	41.8	5.3	66.0
Netherlands	40.1	5.8	60.7
Hungary	38.6	7.1	50.7
Slovenia	38.6	8.8	66.9
Luxembourg	35.4	9.6	54.5
Norway	35.2	4.6	45.4
Belgium	33.9	7.8	62.2
Great Britain	33.8	6.0	48.5
Finland	31.0	4.3	56.1
Latvia	30.5	3.0	66.1
Iceland	26.6	3.8	69.1
Lithuania	25.4	1.4	74.5
Slovakia	24.9	3.6	76.2
New Zealand	23.4	6.4	50.6
Austria	23.0	2.9	68.8
Switzerland	22.9	5.9	63.7
Australia	18.2	6.8	56.3
Spain	17.5	5.6	60.3
Italy	15.4	3.6	82.5
Croatia	14.3	5.0	76.5
Portugal	13.0	3.9	79.0
Canada	11.4	3.8	71.6
Ireland	6.6	1.1	68.1
United States	4.9	1.5	80.6
Poland	4.9	1.7	90.2
Average	*29.4*	*5.7*	*61.2*

[1]*figures are weighted to reflect equal proportions of males and females in each country;* [2]*based on the WVS/EVS data aggregated across all available country-years; average* n *for each cell=5395.*

Figure 1.2

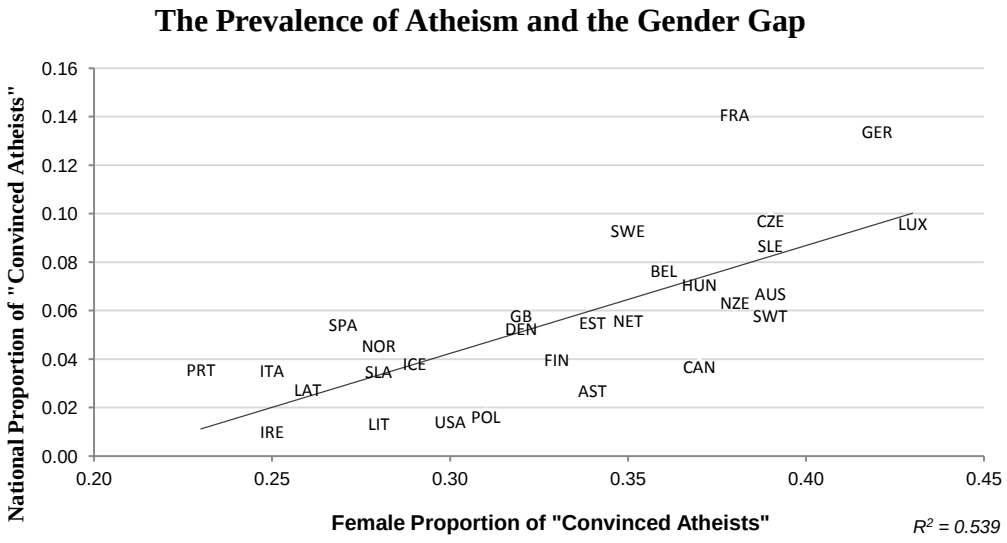

Figure 1.3

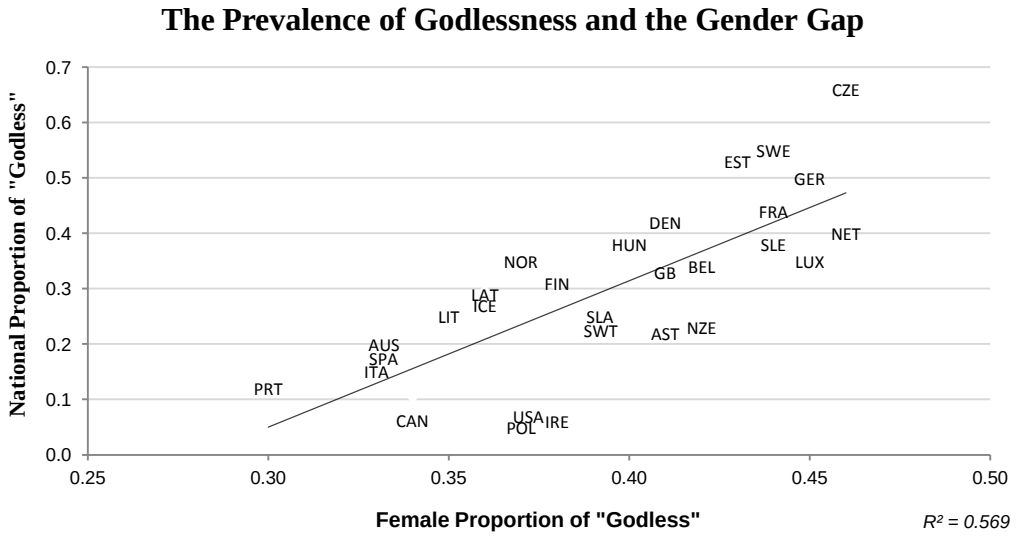

Table 2: Hypothesis Table for Chapter 2

Theory	Irreligion Dynamic	H	Independent Variable	Dependent Variable	Level of Analysis	Expected Relationship
Secularization Theory	Ideology	H1	Secularization index	Proportion of society lacking God belief	Country year	Positive
	Ideology	H2	Social welfare spending	Proportion of society lacking God belief	Country year	Positive
	Ideology	H3	Income inequality (Gini index)	Proportion of society lacking God belief	Country year	Negative
	Ideology	H4	Urbanization index	Proportion of society lacking God belief	Country year	Positive
	Ideology	H5	Per capita GDP	Proportion of society lacking God belief	Country year	Positive
	Ideology	H6	Household income tertile	Lack of God belief	Individual	Positive
	Ideology	H7	Education	Lack of God belief	Individual	Positive
	Ideology	H8	Religious fragmentation index	Secularization index	Country year	Positive
	Ideology	H9	Religious fragmentation index	Proportion of society lacking God belief	Country year	Positive
	Identity and Ideology	H10	Proportion of society with cultural religion	Proportion of avowed atheists in society	Country year	Negative
	Identity	H11	Religiosity index	Proportion of avowed atheists among nonbelievers	Country year	Positive
	Identity	H12	Support for right-of-center parties	Proportion of avowed atheists among nonbelievers	Country Year	Positive
	Identity and Ideology	H13	Education	Avowed Atheism	Individual	Positive
Supply Side Religious Economy	Identity	H14	Government intervention in religion (GIR)	Religious fragmentation index	Country year	Negative
	Ideology	H15	Religious fragmentation index	Religiosity index	Country year	Positive
	Identity	H16	Government intervention in religion (GIR)	Proportion of avowed atheists in society	Country year	Negative
	Ideology	H17	Government intervention in religion (GIR)	Proportion of society lacking God belief	Country year	Positive
	Identity	H18	Religious fragmentation index	Proportion of unavowed atheists	Country year	Negative
	Identity	H19	Religious fragmentation index	Proportion of avowed atheists among nonbelievers	Country year	Positive
(uncategorized)	Identity	H20	Proportion of Catholics in society	Proportion of avowed atheists among nonbelievers	Country year	Positive

Figure 1.1: Atheist Identity Development Schema (Smith 2011)

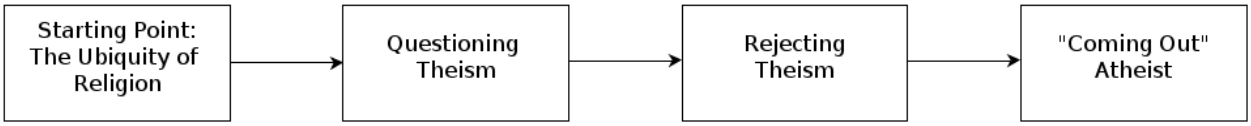

Figure 2.01: Social Groups Delineated by Stages of the Atheist Identity Development Schema

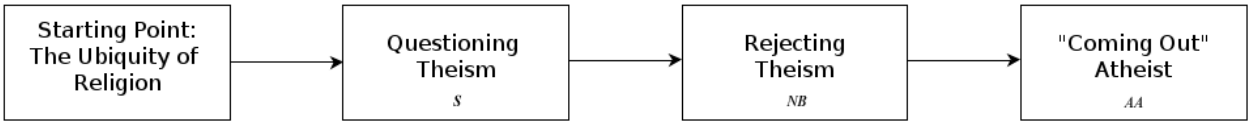

Figure 2.1

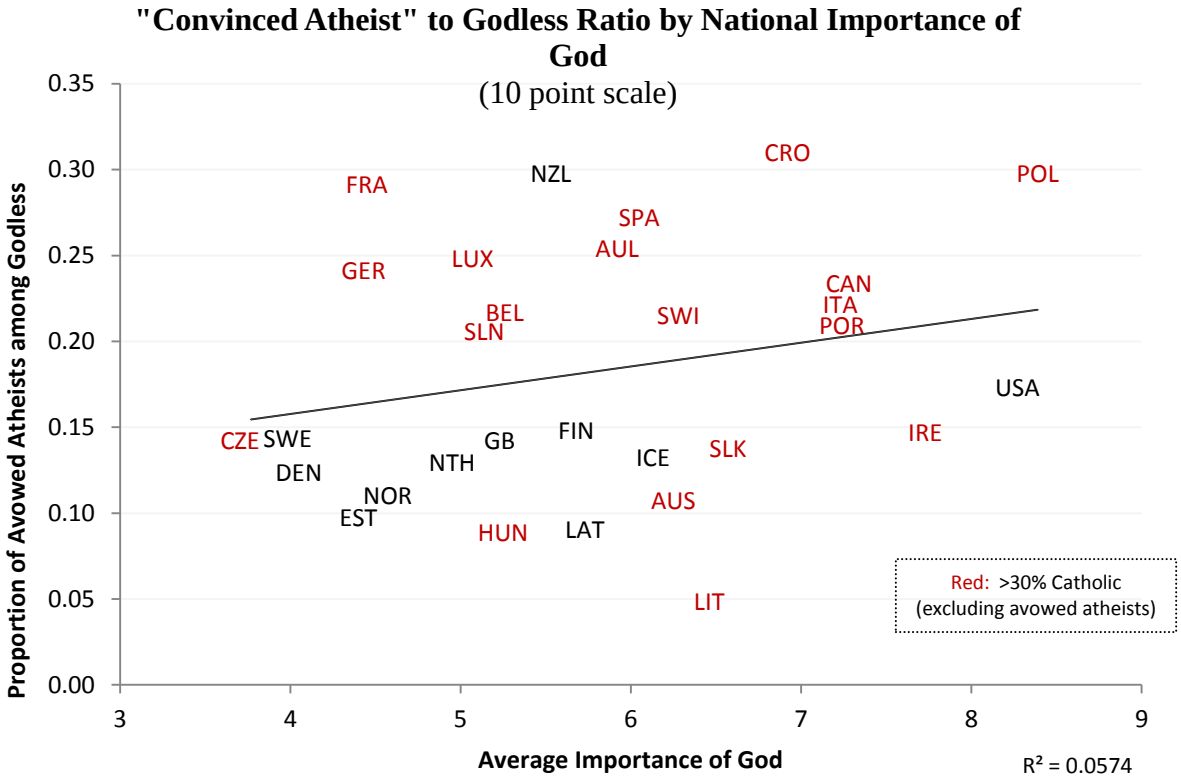

Figure 2.2

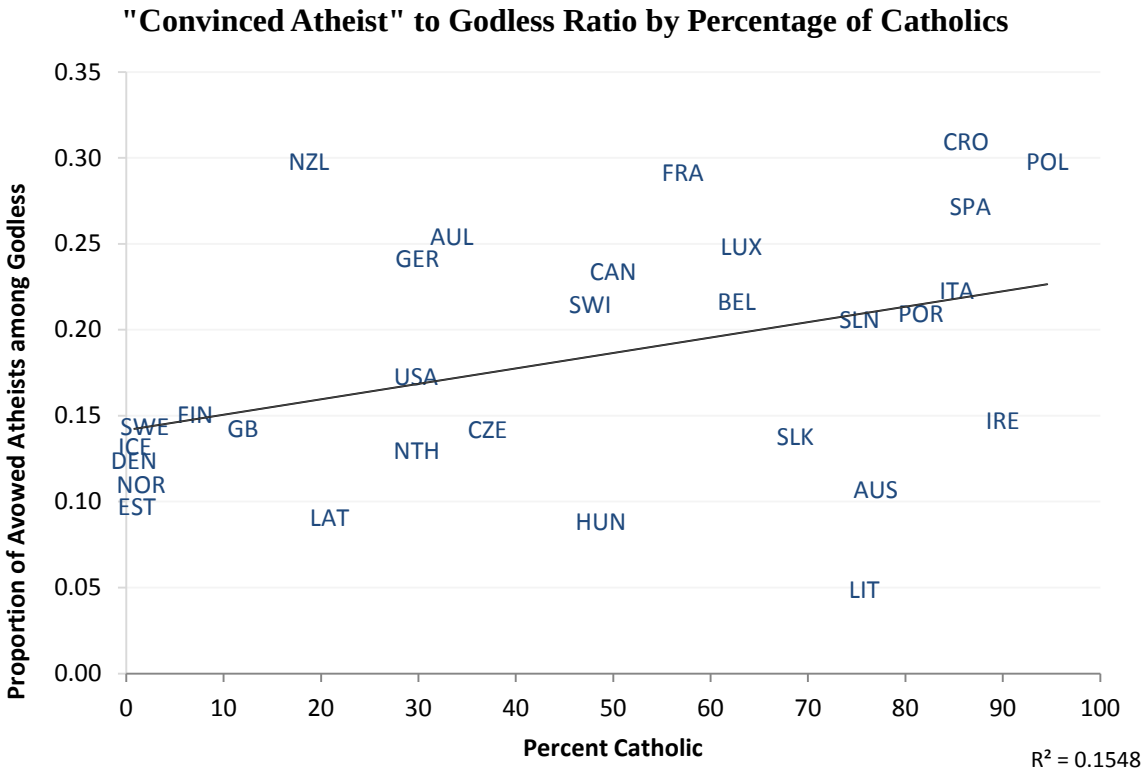

Figure 2.3: Schematic Model Explaining Atheism with Secularization Theory

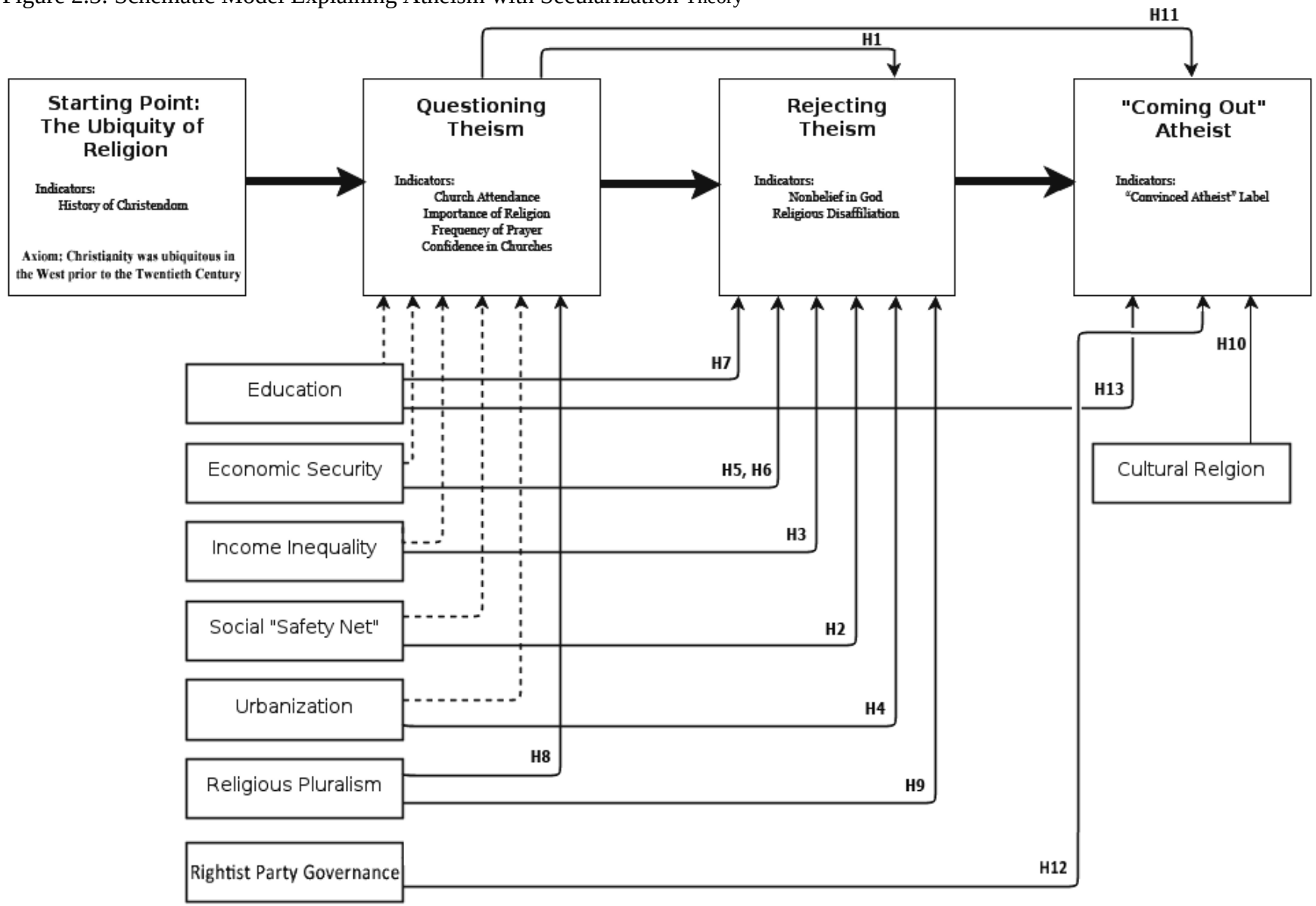

Figure 2.4: Schematic Model Explaining Atheism with Supply Side Religious Economy Theory

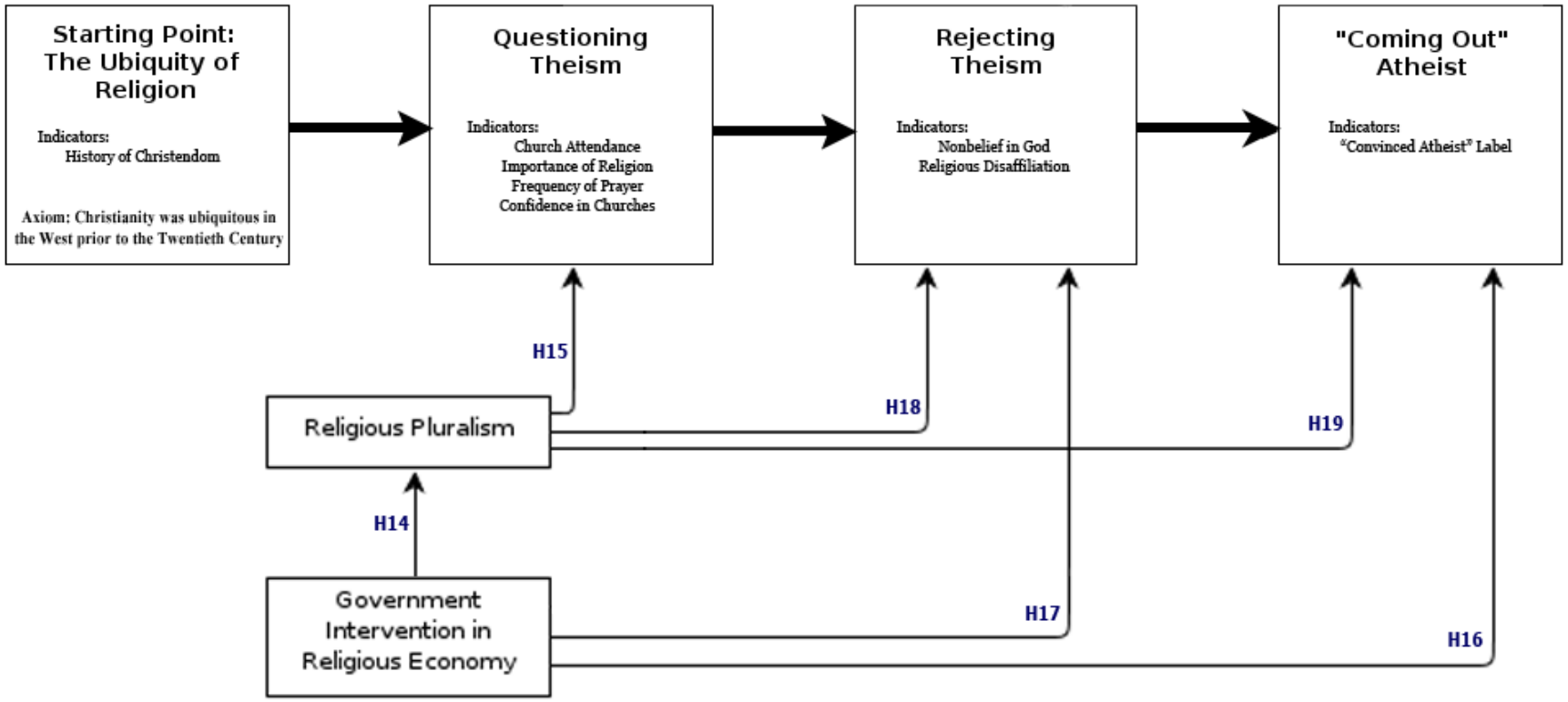

Table 2.01

Map of Bayesian Hierarchical Models Used for Testing Chapter 2 Hypotheses

Hypothesis	Number of Levels		Model								
	Four	*Three*	***2.1***	***2.2***	***2.3***	***2.4***	***2.5***	***2.6***	***2.7***	***2.8***	***2.9***
H1		x			x						
H2		x			x						
H3		x			x						
H4		x			x						
H5		x			x						
H6	x		x								
H7	x		x								
H8		x				x					
H9		x			x						
H10		x					x				
H11		x						x			
H12		x						x			
H13	x			x							
H14		x							x		
H15		x								x	
H16		x					x				
H17		x			x						
H18		x									x
H19		x						x			
H20		x						x			

Table 2.02

Hypothesized and Observed Effects of Chapter 2 Models

Theory	Hyp.	IV	DV	Level of Analysis		Anticipated Effect	Observed Effect	Support?
				Individual	*Country Year*			
Secularization Theory	**H1**	Sec. Index	NB/S		X	+	+	YES
	H2	Social Welfare Spending	NB/S		X	+	+	YES
	H3	Income Inequality	NB/S		X	–	+/–	*Mixed*
	H4	Urbanization	NB/S		X	+	+	YES
	H5	GDP per capita	NB/S		X	+	+	YES
	H6	Income Tertile	NB	X		+	+	YES
	H7	Education	NB	X		+	+	YES
	H8	Religious Pluralism	Sec. Index		X	+	*none*	NO
	H9	Religious Pluralism	NB/S		X	+	*none*	NO
	H10	Cultural Religion	AA/S		X	–	–	YES
	H11	Religiosity Index	AA/NB		X	+	+	YES
	H12	Rightist Party Strength	AA/NB		X	+	+	YES
	H13	Education	AA	X		+	+	YES
Supply Side Religious Economy Theory	**H14**	GIR	Religious Pluralism		X	–	*none*	NO
	H15	Religious Pluralism	Religiosity Index		X	+	*none*	NO
	H16	GIR	AA/S		X	–	*none*	NO
	H17	GIR	NB/S		X	+	*none*	NO
	H18	Religious Pluralism	AA/S		X	–	*none*	NO
	H19	Religious Pluralism	AA/NB		X	+	*none*	NO
(uncat-egorized)	**H20**	Proportion Catholic	AA/NB		X	+	+	YES

Table 2.1

Results of Model 2.1: Predicting Unbelief in God(s)

Complete Test of *H6* and *H7* from Chapter 2
All Independent Variables from Chapter 2 Included as Controls

	Variable		Parameter	Mean	S.D.
Level 1 Individual					
	Age_{jkl}				
		Never Communist	β_{1001}	*** -0.051	0.001
		Former Communist	β_{1002}	*** -0.053	0.002
	$Female_{jkl}$				
		Country-Year Mean	β_{21kl}	*** -0.055	0.012
	$Married_{00l}$				
		Country-Year Mean	β_{31kl}	*** -0.014	0.001
H7	**Education**		α_{1000}	***** 0.021**	**0.001**
H6	**Income Tertile**		α_{2000}	***** 0.009**	**0.001**
	Children		α_{3000}	*** -0.015	0.001
	Urban		α_{4000}	*** 0.016	0.001
Level 2 Country Year					
	Inequality				
		Never Communist	β_{0101}	-0.016	0.013
		Former Communist	β_{0102}	* 0.024	0.014
	Year				
		Never Communist	β_{0201}	* 0.014	0.013
		Former Communist	β_{0202}	*** -0.045	0.023
	GDP per capita				
			γ_{0100}	0.026	0.025
	Government Intervention in Religion				
			γ_{0200}	-0.022	0.017
	Social Welfare Spending per capita				
			γ_{0300}	-0.002	0.018
	Proportion Catholic				
			γ_{0400}	*** -0.062	0.015

	Religiosity				
			γ_{0500}	*** -0.048	0.019
	Cultural Religion				
			γ_{0600}	0.002	0.006
	Constant				
		Country-Year Mean	α_{0jkl}	*** 0.299	0.012
Level 3 Country					
	Religious Pluralism				
			π_{0010}	-0.013	0.046

n:		
	Level 1	142,349
	Level 2	106
	Level 3	30
	Level 4	2

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

Table 2.2

Results of Model 2.2: Predicting Avowed Atheism

Complete Test of H13 of Chapter 2[†]

	Variable		
Level 1			
Individual	Age_{ijkl}	*Never Communist*	-0.011*** (0.001)
		Former Communist	-0.002*** (0.001)
	$Female_{ij}$	*Country-Year Mean*	-0.018*** (0.006)
	$Married_{ijkl}$	*Country-Year Mean*	-0.006*** (0.001)
H13	**Education**		**0.012*** (0.001)**
	Income Tertile		0.002*** (0.001)
	Children		-0.003*** (0.001)
	Urban		-0.007*** (0.001)
	Constant		
		Country-Year Mean	0.060*** (0.008)
Level 2			
Country Year	$Inequality_{jkl}$	*Never Communist*	-0.005 (0.006)
		Former Communist	-0.007 (0.007)
	$Year_{jkl}$	*Never Communist*	0.010*** (0.004)
		Former Communist	-0.002 (0.007)
	GDP per capita		0.006 (0.006)
	Government Intervention in Religion		-0.003 (0.005)
	Social Welfare Spending per capita		-0.007 (0.007)
	Proportion Catholic		-0.013** (0.005)

	Religiosity		-0.017***
			(0.006)
	Cultural Religion		0.003
			(0.004)
Level 3			
Country	Religious Pluralism		0.017
			(0.014)
	n:		
		Level 1	164,859
		Level 2	125
		Level 3	30
		Level 4	2

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

[†]A level four "grand mean" intercept was not included in this model, as its inclusion resulted in unreasonable increases in the variance parameters of the second and third levels and similarly inflated several standard errors of macro-level predictors. However, this model maintains the use of the fourth level for differentiating estimates for two variables at each of the first two levels and the Level 3 intercepts. These methods were selected to control for theorized differences between organic and [the close descendent of] coerced atheism

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Table 2.3

Results of Model 2.3: Predicting the Prevalence of Reported Unbelief in God(s)

Complete Test of *H1-H5, H9, and H17* from Chapter 2[†]

	Variable		Parameter	Mean	S.D.
Level 1					
Country Year					
H3	Inequality				
		Never Communist	β_{101}	*** -0.023	0.002
		Former Communist	β_{102}	** 0.029	0.006
	Year				
		Never Communist	β_{201}	* 0.018	0.007
		Former Communist	β_{202}	*** -0.047	0.017
H5	GDP per capita		γ_{0100}	* 0.026	0.010
H17	Government Intervention in Religion		γ_{200}	0.005	0.011
H2	Social Welfare Spending per capita		γ_{300}	*** 0.014	0.003
	Proportion Catholic		γ_{400}	*** -0.034	0.009
	Religiosity		γ_{500}	*** -0.051	0.019
	Cultural Religion		γ_{600}	*** 0.009	0.001
H1	Secularization		γ_{700}	*** 0.030	0.002
H4	Urbanization		γ_{800}	* 0.008	0.002
Level 2					
Country					
H9	Religious Pluralism		π_{010}	-0.006	0.009
Level 3					
Communist History					
	Constant				
		Never Communist	γ_{0kl}	*** 0.220	0.039
		Former Communist		*** 0.292	0.046

n:		
	Individuals	142,349
	Level 1	106
	Level 2	30
	Level 3	2

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

[†]*Dependent variable values representing proportions of unbelief are rescaled to a 0-1 range after being weighted to reflect equal representations of male and female respondents at the country year level. All independent variables and controls are standardized with a mean of 0 and a standard error of 1.*

Table 2.4

Results of Models 2.4, 2.5, and 2.6: Predicting Secularization, Avowed Atheism in Society, and Avowed Atheism among Nonbelievers Across 30 Western Nations

Complete Tests of *H8, H10, H11, H12, H16, H19, and H20* of Chapter 2[†]

	Dependent Variable:	**Secularization**	**AA/S**	**AA/NB**
		Model 2.4	Model 2.5	Model 2.6
	Variable			
Level 1				
Country				
Year				
	Inequality			
	Never Communist	-0.050***	-0.031***	-0.019***
		(0.015)	(0.005)	(0.003)
	Former Communist	0.007	-0.012***	-0.006***
		(0.005)	(0.004)	(0.002)
	Year			
	Never Communist	-0.024	-0.023***	0.028***
		(0.015)	(0.007)	(0.006)
	Former Communist	0.009	0.016***	0.006
		(0.017)	(0.005)	(0.003)
	GDP per capita	-0.003	0.018	0.017***
		(0.027)	(0.020)	(0.005)
H16	Government Intervention in Religion	-0.007	**-0.005**	0.004
		(0.023)	**(0.008)**	(0.008)
	Social Welfare Spending per capita	-0.008	0.010*	-0.003
		(0.026)	(0.004)	(0.003)
H11	Religiosity	--	--	**0.017*** **
		--	--	**(0.004)**
H20	Proportion Catholic	--	--	**0.021*** **
		--	--	**(0.006)**
H10	Cultural Religion	0.010	**-0.018*** **	-0.011*
		(0.017)	**(0.006)**	(0.005)
	Urbanization	0.004	-0.003	0.005
		(0.013)	(0.017)	(0.007)
H12	Rightist Party Governance	-0.011***	-0.014***	**0.019*** **
		(0.003)	(0.004)	**(0.003)**

Level 2				
Country				
H8, H19	Religious Pluralism	**0.010**	0.008	**0.013**
		(0.013)	(0.009)	**(0.007)**
Level 3				
Communist History				
	Constant			
	Never Communist	0.425***	0.411***	0.373***
		(0.033)	(0.047)	(0.039)
	Former Communist	0.387***	0.476***	0.356***
		(0.039)	(0.028)	(0.033)
n:				
	Individuals	142,491	164,859	140,774
	Level 1	108	125	106
	Level 2	30	30	30
	Level 3	2	2	2

WVS/EVS data, including all waves from 1981-2009
Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:*
* p<0.05, **p<0.01, *** p<0.005
Covariance terms were not significantly different from zero and were therefore excluded from the model

[†]Dependent variable values scaled to a 0-1 range after being weighted to reflect equal representations of male and female respondents at the country year level. All independent variables and controls are standardized with a mean of 0 and a standard error of 1. Level 3 consists of two groups of countries, those with histories of communist government and those without any such histories. It is here used to differentiate the effects of inequality and time across those clusters, as well as the constants representing each cluster's grand mean y-value.

Table 2.5

Results of Model 2.7, 2.8, and 2.9: Predicting Religious Pluralism, Religiosity, and Avowed Atheism Across 30 Western Nations

Complete Test of *H14, H15, and H18* of Chapter 2[†]

	Dependent Variable:	**Religious Pluralism**	**Religiosity**	**AA/S**
		Model 2.7	Model 2.8	Model 2.9
	Variable			
Level 1 Country Year				
	Inequality			
	Never Communist	0.021 (0.018)	0.024*** (0.006)	-0.029*** (0.005)
	Former Communist	0.009 (0.012)	0.006* (0.002)	-0.011*** (0.004)
	Year			
	Never Communist	0.004 (0.019)	-0.013 (0.011)	0.024*** (0.008)
	Former Communist	-0.002 (0.022)	0.011 (0.008)	-0.015*** (0.004)
	GDP per capita	-0.003 (0.018)	-0.012 (0.014)	0.016 (0.015)
H14	Government Intervention in Religion	**-0.004** **(0.015)**	0.005* (0.002)	-0.004 (0.006)
	Social Welfare Spending per capita	0.010 (0.017)	-0.011*** (0.003)	0.010** (0.004)
	Religiosity	0.008** (0.003)	-- --	-- --
	Cultural Religion	-0.013* (0.005)	-- --	-0.015*** (0.005)
	Urbanization	0.008 (0.010)	-0.009* (0.003)	0.006 (0.004)
Level 2 Country				
H15, H18	Religious Pluralism	-- --	**-0.002** **(0.006)**	**0.006** **(0.010)**
Level 3 Communist History				
	Constant			
	Never Communist	0.402*** (0.048)	0.429*** (0.040)	0.411*** (0.048)

Former Communist	0.411***	0.367***	0.476***
	(0.033)	(0.038)	(0.030)
n:			
Individuals	164,859	164,859	164,859
Level 1	125	125	125
Level 2	30	30	30
Level 3	2	2	2

WVS/EVS data, including all waves from 1981-2009
Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:*
* p<0.05, **p<0.01, *** p<0.005
Covariance terms were not significantly different from zero and were therefore excluded from the model

[†]Dependent variable values scaled to a 0-1 range after being weighted to reflect equal representations of male and female respondents at the country year level. All independent variables and controls are standardized with a mean of 0 and a standard error of 1. Level 3 consists of two groups of countries, those with histories of communist government and those without any such histories. It is here used to differentiate the effects of inequality and time across those clusters, as well as the constants representing each cluster's grand mean y-value.

Table 2.6

Comparison of Bayesian and Frequentist Results of Model 2.3: Predicting the Prevalence of Reported Unbelief in God(s)

	Variable		Bayesian Estimate	Frequentist Estimate
Level 1 Country Year				
H1	Inequality			
		Never Communist	-0.023*** (0.002)	-0.022*** (0.002)
		Former Communist	0.029** (0.006)	0.028** (0.006)
	Year			
		Never Communist	0.018* (0.007)	0.018** (0.006)
		Former Communist	-0.047*** (0.017)	-0.045*** (0.015)
H5	GDP per capita		0.026* (0.010)	0.025* (0.010)
H17	Government Intervention in Religion		0.005 (0.011)	0.005 (0.010)
H2	Social Welfare Spending per capita		0.014*** (0.003)	0.012*** (0.003)
	Proportion Catholic		-0.034*** (0.009)	-0.033*** (0.008)
	Religiosity		-0.051*** (0.019)	-0.046*** (0.017)
	Cultural Religion		0.009*** (0.001)	0.009*** (0.001)
H1	Secularization		0.030*** (0.002)	0.028*** (0.002)
H4	Urbanization		0.008* (0.002)	0.008* (0.002)
Level 2 Country				
H9	Religious Pluralism		-0.006 (0.009)	-0.003 (0.008)

Level 3			
Communist History			
	Constant		
	Never Communist	0.220*** (0.039)	0.222*** (0.038)
	Former Communist	0.292*** (0.046)	0.291*** (0.043)
n:			
	Individuals	142,349	142,349
	Level 1	106	106
	Level 2	30	30
	Level 3	2	2

WVS/EVS data, including all waves from 1981-2009
Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005
Covariance terms were not significantly different from zero and were therefore excluded from the model. Frequentist estimates are obtained using ordinary least squares regression with estimated standard errors in parentheses.
[†]*Dependent variable values scaled to a 0-1 range after being weighted to reflect equal representations of male and female respondents at the country year level. All independent variables and controls are standardized with a mean of 0 and a standard error of 1. Level 3 consists of two groups of countries, those with histories of communist government and those without any such histories. It is here used to differentiate the effects of inequality and time across those clusters, as well as the constants representing each cluster's grand mean y-value.*

Table 3: Hypothesis Table for Chapter 3

Political Behavior Attribute	Sample	H	Independent Variables	Dependent Variable	Level of Analysis	Expected Relationship
Participation	All cases available	H1	Avowed atheism; nonreligion (H1a); godlessness (H1b)	Political participation index	Individual	Positive; strongest for avowed atheism
Politicization	All cases available	H2	Avowed atheism; nonreligion (H2a); godlessness (H2b)	Politicization index	Individual	Positive; strongest for avowed atheism
Political Ideology	All cases available	H3	Avowed atheism; nonreligion (H3a); godlessness (H3b)	Left/right self-placement scale	Individual	Negative; strongest for avowed atheism
	All cases available	H4	Avowed atheism; nonreligion (H4a); godlessness (H4b)	Nationalism index	Individual	Negative; strongest for avowed atheism
	All cases available	H5	Avowed atheism; nonreligion (H5a); godlessness (H5b)	Postmaterialism index	Individual	Positive; strongest for avowed atheism
	All cases available	H6	Avowed atheism; nonreligion (H6a); godlessness (H6b)	Environmentalism index	Individual	Positive; strongest for avowed atheism
Interpersonal Trust & Political Tolerance	All cases available	H7	Avowed atheism; nonreligion (H7a); godlessness (H7b)	Political tolerance index	Individual	Positive; strongest for avowed atheism
	All cases available	H8	Avowed atheism; nonreligion (H8a); godlessness (H8b)	Interpersonal trust index	Individual	Positive; strongest for avowed atheism
	Avowed atheists	H9	Religiosity index	Interpersonal trust index	Country	Negative
	Avowed atheists	H10	Religiosity index	Political tolerance index	Country	Negative
Politicization	Avowed atheists	H11	Religiosity index	Politicization index	Country	Positive
Participation	Avowed atheists	H12	Religiosity index	Political participation index	Country	Positive
Political Ideology	Avowed atheists	H13	Religiosity index	Left/right self-placement scale	Country	Negative

Table 3.01

Map of Bayesian Hierarchical Models Used for Testing Chapter 3 Hypotheses

Hypothesis	**Number of Levels**		**Model**												
	Four	*Two*	***3.1***	***3.2***	***3.3***	***3.4***	***3.5***	***3.6***	***3.7***	***3.8***	***3.9***	***3.10***	***3.11***	***3.12***	***3.13***
H1	x		x												
H2	x			x											
H3	x				x										
H4	x					x									
H5	x						x								
H6	x							x							
H7	x								x						
H8	x									x					
H9		x									x				
H10		x										x			
H11		x											x		
H12		x												x	
H13		x													x

Table 3.02

Hypothesized and Observed Effects of Chapter 3 Models

Political Behavior Attribute	Sample	Hyp.		Independent Variables		Dependent Variable	Level of Analysis: *Individual*	Level of Analysis: *Country*	Anticipated Effect	Observed Effect	Support?
Participation	Complete	**H1**	a	Avowed Atheism:	Nonreligion	Political Participation	X		+	+	YES
			b		Godlessness		X				*Mixed*
Politicization		**H2**	a	Avowed Atheism:	Nonreligion	Politicization	X		+	+	YES
			b		Godlessness		X				YES
Political Ideology		**H3**	a	Avowed Atheism:	Nonreligion	Left/Right Self Placement	X		–	–	YES
			b		Godlessness		X				NO
		H4	a	Avowed Atheism:	Nonreligion	Nationalism	X		–	–	YES
			b		Godlessness		X				YES
		H5	a	Avowed Atheism:	Nonreligion	Postmaterialism	X		+	+	YES
			b		Godlessness		X				*Mixed*
		H6	a	Avowed Atheism:	Nonreligion	Environmentalism	X		+	+	YES
			b		Godlessness		X				YES
Interpersonal Trust & Political Tolerance		**H7**	a	Avowed Atheism:	Nonreligion	Political Tolerance	X		+	+	YES
			b		Godlessness		X				YES
		H8	a	Avowed Atheism:	Nonreligion	Interpersonal Trust	X		+	+	YES
			b		Godlessness		X				*Mixed*
	Avowed Atheists	**H9**		Religiosity		Interpersonal Trust		X	–	*none*	NO
		H10		Religiosity		Political Tolerance		X	–	*none*	NO
Politicization		**H11**		Religiosity		Politicization		X	+	+	YES
Participation		**H12**		Religiosity		Political Participation		X	+	+	YES
Political Ideology		**H13**		Religiosity		Left/Right Self Placement		X	–	–	YES

Table 3.1

Results of Models 3.1, 3.2, and 3.3: Predicting Political Participation, Politicization, and Left/Right Ideology

Complete Tests of H1, H2, and H3 of Chapter 3

			Political Participation			**Politicization**			**Left/Right Ideology**		
	Variable		**Model 3.1a** *H1*	**Model 3.1b** *H1a*	**Model 3.1c** *H1b*	**Model 3.2a** *H2*	**Model 3.2b** *H2a*	**Model 3.2c** *H2b*	**Model 3.3a** *H3*	**Model 3.3b** *H3a*	**Model 3.3c** *H3b*
Level 1											
Individual	**Avowed Atheism:**										
		Never Communist	**0.021*** **	--	--	**0.011*** **	--	--	**-0.021*** **	--	--
			(0.001)	--	--	**(0.001)**	--	--	**(0.001)**	--	--
		Former Communist	**0.004*** **	--	--	**0.004*** **	--	--	**-0.021*** **	--	--
			(0.001)	--	--	**(0.001)**	--	--	**(0.001)**	--	--
	Nonreligion:										
		Never Communist	--	**0.010*** **	--	--	**0.005*** **	--	--	**-0.017*** **	--
			--	**(0.001)**	--	--	**(0.000)**	--	--	**(0.001)**	--
		Former Communist	--	**0.002*** **	--	--	**0.004*** **	--	--	**-0.016*** **	--
			--	**(0.001)**	--	--	**(0.001)**	--	--	**(0.001)**	--
	Godlessness:										
		Never Communist	--	--	**0.027*** **	--	--	**0.007*** **	--	--	**-0.031*** **
			--	--	**(0.001)**	--	--	**(0.001)**	--	--	**(0.001)**
		Former Communist	--	--	**0.003*** **	--	--	**0.004*** **	--	--	**-0.023*** **
			--	--	**(0.001)**	--	--	**(0.001)**	--	--	**(0.001)**
	Age_{tijk}										
		Never Communist	-0.032***	-0.031***	-0.033***	-0.037***	-0.037***	-0.035***	0.015***	0.013***	0.014***
			(0.001)	(0.001)	(0.001)	(0.007)	(0.006)	(0.008)	(0.001)	(0.001)	(0.001)
		Former Communist	-0.016***	-0.016***	-0.017***	-0.032***	-0.033***	-0.031***	0.007***	0.008***	0.007***
			(0.001)	(0.001)	(0.001)	(0.006)	(0.006)	(0.007)	(0.001)	(0.001)	(0.001)

	$Female_{ti}$									
		Country-Year Mean	-0.018***	-0.018***	-0.019***	-0.025***	-0.025***	-0.025***	-0.007***	-0.005***	-0.006***
			(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.002)	(0.002)	(0.002)
	$Married_{ti}$		-0.001	-0.001	-0.001	0.007	0.006	0.009	-0.003*	-0.001	-0.001
			(0.001)	(0.001)	(0.001)	(0.007)	(0.007)	(0.008)	(0.001)	(0.001)	(0.001)
	$Education_{ti}$		0.043***	0.044***	0.043***	0.046***	0.046***	0.046***	-0.004***	-0.003***	-0.004***
			(0.001)	(0.001)	(0.001)	(0.007)	(0.006)	(0.007)	(0.001)	(0.001)	(0.001)
	$Income\ Tertile_{tijk}$		0.016***	0.016***	0.015***	0.019*	0.020***	0.015	0.010***	0.011***	0.011***
			(0.001)	(0.001)	(0.001)	(0.007)	(0.006)	(0.007)	(0.001)	(0.001)	(0.001)
	$Children_{ti}$		-0.001*	-0.002*	-0.001	-0.003	-0.004	-0.004	-0.002	-0.002*	-0.002*
			(0.000)	(0.001)	(0.001)	(0.007)	(0.006)	(0.008)	(0.001)	(0.001)	(0.000)
	$Urban_{ti}$		-0.010***	-0.010***	-0.011***	0.005	0.005	0.004	-0.006***	-0.006***	-0.005***
			(0.001)	(0.001)	(0.001)	(0.006)	(0.005)	(0.006)	(0.001)	(0.001)	(0.001)
	Constant:										
		Country-Year Mean	0.328***	0.330***	0.331***	0.433***	0.435***	0.431***	0.537***	0.537***	0.539***
			(0.009)	(0.008)	(0.008)	(0.002)	(0.002)	(0.002)	(0.005)	(0.005)	(0.005)
Level 2											
Country year	$Inequality_{ijk}$										
		Never Communist	-0.006	-0.005	-0.010	-0.002*	-0.002*	-0.003**	-0.001	-0.005	-0.010
			(0.011)	(0.011)	(0.011)	(0.001)	(0.001)	(0.001)	(0.005)	(0.011)	(0.011)
		Former Communist	-0.024*	-0.017*	-0.027**	-0.003*	-0.003*	-0.003*	-0.015*	-0.017**	-0.014*
			(0.013)	(0.011)	(0.012)	(0.002)	(0.001)	(0.002)	(0.007)	(0.007)	(0.007)
	$Year_{ijk}$										
		Never Communist	0.003	0.003	0.014	0.022***	0.024***	0.021***	-0.009***	-0.010***	-0.009***
			(0.010)	(0.010)	(0.011)	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)
		Former Communist	-0.050***	-0.049***	-0.043**	-0.041***	-0.045***	-0.039***	-0.006***	-0.006***	-0.007***
			(0.019)	(0.020)	(0.020)	(0.003)	(0.002)	(0.005)	(0.002)	(0.002)	(0.002)
	GDP per capita		0.016	0.017	0.014	0.012***	0.015***	0.013***	0.018	0.017	0.014
			(0.020)	(0.021)	(0.022)	(0.003)	(0.002)	(0.003)	(0.019)	(0.021)	(0.017)

	Government Intervention in Religion	0.006	0.004	0.003	0.006*	0.005	0.003	-0.002	0.000	0.003
		(0.012)	(0.012)	(0.012)	(0.002)	(0.003)	(0.002)	(0.005)	(0.007)	(0.012)
	Social Welfare Spending per capita	-0.007	-0.010	-0.008	0.032***	0.032***	0.031***	-0.009	-0.010	-0.008
		(0.014)	(0.010)	(0.015)	(0.002)	(0.002)	(0.002)	(0.009)	(0.010)	(0.008)
	Proportion Catholic	-0.030***	-0.024***	-0.019*	-0.012***	-0.014***	-0.014***	-0.012***	-0.017***	-0.011***
		(0.011)	(0.009)	(0.007)	(0.001)	(0.000)	(0.001)	(0.005)	(0.004)	(0.004)
	Religiosity	0.008	0.002	0.004	0.008***	0.008***	0.009***	0.004	0.002	0.004
		(0.010)	(0.010)	(0.012)	(0.001)	(0.001)	(0.001)	(0.005)	(0.010)	(0.012)
Level 3										
Country	Religious Pluralism	-0.001	-0.001	0.012	0.036	0.028	0.019	-0.016	-0.001	0.003
		(0.028)	(0.028)	(0.027)	(0.029)	(0.024)	(0.021)	(0.021)	(0.028)	(0.027)
	n									
	Level 1	164,859	167,787	142,349	161,369	164,893	139,276	149,972	150,688	130,812
	Level 2	125	127	106	122	124	104	123	123	104
	Level 3	30	30	30	30	30	30	30	30	30
	Level 4	2	2	2	2	2	2	2	2	2

WVS/EVS data, including all waves from 1981-2009

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

Table 3.2

Results of Models 3.4, 3.5, and 3.6: Predicting Nationalism, Postmaterialism, and Environmentalism

Complete Tests of H4, H5, and H6 of Chapter 3

		Nationalism			Postmaterialism			Environmentalism		
	Variable	**Model 3.4a** *H4*	**Model 3.4b** *H4a*	**Model 3.4c** *H4b*	**Model 3.5a** *H5*	**Model 3.5b** *H5a*	**Model 3.5c** *H5b*	**Model 3.6a** *H6*	**Model 3.6b** *H6a*	**Model 3.6c** *H6b*
Level 1										
Individual	**Avowed Atheism:**									
	Never Communist	**-0.019*** **	--	--	**0.016*** **	--	--	**0.021*** **	--	--
		(0.000)	--	--	**(0.001)**	--	--	**(0.001)**	--	--
	Former Communist	**-0.007*** **	--	--	**0.007*** **	--	--	**0.016*** **	--	--
		(0.000)	--	--	**(0.001)**	--	--	**(0.003)**	--	--
	Nonreligion:									
	Never Communist	--	**-0.006*** **	--	--	**0.010*** **	--	--	**0.014*** **	--
		--	**(0.001)**	--	--	**(0.001)**	--	--	**(0.001)**	--
	Former Communist	--	**-0.003*** **	--	--	**0.005*** **	--	--	**0.010*** **	--
		--	**(0.000)**	--	--	**(0.001)**	--	--	**(0.002)**	--
	Godlessness:									
	Never Communist	--	--	**-0.011*** **	--	--	**0.013*** **	--	--	**0.017*** **
		--	--	**(0.001)**	--	--	**(0.001)**	--	--	**(0.001)**
	Former Communist	--	--	**-0.005*** **	--	--	**0.008*** **	--	--	**0.011*** **
		--	--	**(0.000)**	--	--	**(0.001)**	--	--	**(0.003)**
	Age_{tijk}									
	Never Communist	0.026***	0.025***	0.028***	-0.020***	-0.020***	-0.021***	-0.024***	-0.024***	-0.025***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	Former Communist	0.021***	0.022***	0.020***	-0.026***	-0.026***	-0.026***	-0.010***	-0.011***	-0.009***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)

	$Female_{ti}$									
		Country-Year Mean	-0.004***	-0.004***	-0.004***	-0.008***	-0.011***	-0.007***	0.011***	0.010***	0.013***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
	$Married_{ti}$		0.003**	0.003**	0.003**	-0.007***	-0.008***	-0.008***	-0.004***	-0.004***	-0.004***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Education_{ti}$		-0.028***	-0.030***	-0.027***	0.023***	0.029***	0.027***	0.011***	0.016***	0.014***
			(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
	$Income\ Tertile_{tijk}$		0.005***	0.005***	0.005***	0.009***	0.008***	0.008***	-0.002	-0.002	0.001
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Children_{ti}$		-0.012**	-0.012**	-0.011**	-0.007***	-0.006***	-0.005***	-0.003***	-0.003***	-0.002*
			(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
	$Urban_{ti}$		-0.012***	-0.014***	-0.013***	0.008***	0.007***	0.007***	0.009***	0.010***	0.008***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	Constant:										
		Country-Year Mean	0.638***	0.633***	0.641***	0.511***	0.515***	0.507***	0.479***	0.482***	0.491***
			(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Level 2											
Country year	$Inequality_{ijk}$										
		Never Communist	0.020	0.019	0.017	-0.011***	-0.011***	-0.011***	0.001	-0.001	-0.003
			(0.012)	(0.014)	(0.016)	(0.003)	(0.002)	(0.003)	(0.001)	(0.002)	(0.003)
		Former Communist	0.013	0.016	0.018	-0.003	-0.001	-0.005	0.003	0.002	0.005
			(0.012)	(0.013)	(0.020)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.005)
	$Year_{ijk}$										
		Never Communist	0.014	0.013	0.017	0.006***	0.010***	0.008***	0.012	0.013	0.015
			(0.010)	(0.011)	(0.009)	(0.002)	(0.002)	(0.001)	(0.016)	(0.015)	(0.010)
		Former Communist	0.018	0.014	0.021	0.009***	0.009***	0.010***	-0.008	-0.008	-0.011**
			(0.019)	(0.013)	(0.017)	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)
	GDP per capita		0.003	-0.005	-0.009	0.010**	0.011**	0.009**	-0.004	-0.003	-0.001
			(0.020)	(0.021)	(0.017)	(0.003)	(0.002)	(0.003)	(0.011)	(0.010)	(0.008)

	Government Intervention in Religion	0.015 (0.011)	0.007 (0.009)	-0.002 (0.010)	-0.008 (0.009)	0.002 (0.010)	-0.001 (0.012)	0.010 (0.014)	0.013 (0.011)	-0.002 (0.017)
	Social Welfare Spending per capita	0.008 (0.015)	-0.003 (0.011)	0.009 (0.016)	0.010*** (0.001)	0.014*** (0.001)	0.013*** (0.001)	0.008*** (0.002)	0.008*** (0.002)	0.008** (0.003)
	Proportion Catholic	-0.005 (0.011)	-0.008 (0.007)	-0.008 (0.008)	0.002* (0.001)	0.003* (0.001)	0.003* (0.001)	0.009*** (0.002)	0.011*** (0.002)	0.011*** (0.002)
	Religiosity	0.022** (0.008)	0.023*** (0.007)	0.021** (0.008)	-0.015*** (0.003)	-0.014*** (0.003)	-0.012*** (0.002)	-0.007*** (0.002)	-0.006*** (0.002)	-0.009*** (0.002)
Level 3										
Country	Religious Pluralism	0.013 (0.027)	0.005 (0.026)	-0.008 (0.023)	0.001 (0.004)	0.001 (0.004)	-0.004 (0.005)	0.015* (0.006)	0.014* (0.006)	0.011 (0.006)
	n									
	Level 1	142,491	147,792	139,398	164,861	167,790	142,353	54,662	55,047	41,001
	Level 2	108	110	105	125	127	106	42	42	30
	Level 3	30	30	30	30	30	30	30	30	29
	Level 4	2	2	2	2	2	2	2	2	2

WVS/EVS data, including all waves from 1981-2009

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

Table 3.3

Results of Models 3.7 and 3.8: Predicting Political Tolerance and Interpersonal Trust

Complete Tests of H7 and H8 of Chapter 3

			Political Tolerance			Interpersonal Trust		
			Model 3.7a *H7*	**Model 3.7b** *H7a*	**Model 3.7c** *H7b*	**Model 3.8a** *H8*	**Model 3.8b** *H8a*	**Model 3.8c** *H8b*
	Variable							
Level 1								
Individual	**Avowed Atheism:**							
		Never Communist	**0.010*** **	--	--	**0.019*** **	--	--
			(0.001)	--	--	**(0.002)**	--	--
		Former Communist	**0.005*** **	--	--	**0.003**	--	--
			(0.001)	--	--	**(0.003)**	--	--
	Nonreligion:							
		Never Communist	--	**0.006*** **	--	--	**0.010*** **	--
			--	**(0.001)**	--	--	**(0.001)**	--
		Former Communist	--	**0.002*** **	--	--	**-0.002**	--
			--	**(0.000)**	--	--	**(0.001)**	--
	Godlessness:							
		Never Communist	--	--	**0.009*** **	--	--	**0.011*** **
			--	--	**(0.001)**	--	--	**(0.001)**
		Former Communist	--	--	**0.004*** **	--	--	**0.001**
			--	--	**(0.001)**	--	--	**(0.001)**
	Age_{tijk}							
		Never Communist	-0.013***	-0.013***	-0.013***	-0.010***	-0.010***	-0.009***
			(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
		Former Communist	-0.004***	-0.004***	-0.004***	-0.012***	-0.012***	-0.012***
			(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)

	$Female_{ti}$							
		Country-Year Mean	-0.018***	-0.018***	-0.019***	-0.007***	-0.007***	-0.007***
			(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Married_{ti}$							
			-0.004**	-0.004**	-0.004**	0.005***	0.005***	0.004***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Education_{ti}$							
			0.024***	0.025***	0.023***	0.011***	0.013***	0.010***
			(0.002)	(0.002)	(0.002)	(0.001)	(0.000)	(0.001)
	$Income\ Tertile_{tijk}$							
			0.005***	0.005***	0.004***	0.004***	0.004***	0.003***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Children_{ti}$							
			-0.004***	-0.006***	-0.004***	-0.002	-0.002	-0.003
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	$Urban_{ti}$							
			0.017***	0.018***	0.018***	0.006***	0.007***	0.006***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	Constant:							
		Country-Year Mean	0.289***	0.289***	0.290***	0.376***	0.374***	0.369***
			(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Level 2								
Country year	$Inequality_{ijk}$							
		Never Communist	-0.008	-0.008	-0.006	-0.009***	-0.009***	-0.007***
			(0.005)	(0.005)	(0.006)	(0.003)	(0.003)	(0.003)
		Former Communist	-0.005	-0.005	-0.005	-0.003	-0.001	-0.005
			(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.003)
	$Year_{ijk}$							
		Never Communist	-0.002	-0.002	-0.003	-0.001	-0.001	-0.001
			(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)

	Former Communist	0.004*	0.004*	0.004*	-0.005***	-0.005***	-0.005***
		(0.002)	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)
	GDP per capita	0.007	0.008	0.010	0.012**	0.012**	0.013**
		(0.009)	(0.009)	(0.009)	(0.004)	(0.004)	(0.005)
	Government Intervention in Religion	0.004	0.004	0.003	-0.008	-0.008	-0.006
		(0.007)	(0.007)	(0.007)	(0.006)	(0.006)	(0.005)
	Social Welfare Spending per capita	-0.005	-0.007	-0.008	0.009*	0.009*	0.008*
		(0.011)	(0.010)	(0.011)	(0.003)	(0.003)	(0.003)
	Proportion Catholic	-0.004**	-0.004**	-0.004**	-0.006***	-0.006***	-0.007***
		(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
	Religiosity	-0.002	-0.002	-0.002	0.004***	0.004***	0.004***
		(0.002)	(0.002)	(0.003)	(0.001)	(0.001)	(0.001)
Level 3							
Country	Religious Pluralism	-0.010	-0.010	-0.008	0.003	0.003	0.004
		(0.016)	(0.016)	(0.017)	(0.003)	(0.003)	(0.003)
	n						
	Level 1	74,247	74,247	70,981	162,143	164,143	140,742
	Level 2	57	57	54	124	124	105
	Level 3	29	29	29	30	30	30
	Level 4	2	2	2	2	2	2

WVS/EVS data, including all waves from 1981-2009

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:*

* p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

Table 3.4

Results of Models 3.9 – 3.13: Predicting Interpersonal Trust, Political Tolerance, Politicization, Political Participation, and Left/Right Ideology across Avowed Atheist Subpopulations of Thirty Western Nations

Complete Test of H9-H13 of Chapter 3

	Variable	Interpersonal Trust	Political Tolerance	Politicization	Political Participation	Left/Right Self Placement
		Model 3.9	**Model 3.10**	**Model 3.11**	**Model 3.12**	**Model 3.13**
		H9	*H10*	*H11*	*H12*	*H13*
Level 1 Country						
	Societal Religiosity:					
		-0.006	**0.003**	**0.012*** **	**0.009*** **	**-0.016*** **
		(0.004)	**(0.006)**	**(0.002)**	**(0.001)**	**(0.003)**
	$Inequality_{ijk}$					
	Never Communist	0.005	-0.006**	0.004	-0.005***	0.004*
		(0.009)	(0.002)	(0.003)	(0.001)	(0.001)
	Former Communist	0.002	-0.001	-0.003	-0.002	0.005***
		(0.006)	(0.003)	(0.005)	(0.003)	(0.001)
	GDP per capita	0.011	0.007***	-0.005*	0.002***	0.000
		(0.006)	(0.001)	(0.002)	(0.000)	(0.002)
	Government Intervention in Religion	0.007	-0.008	-0.004	0.002	-0.000
		(0.006)	(0.014)	(0.004)	(0.008)	(0.005)
	Social Welfare Spending per capita	0.003*	0.003	-0.001	-0.003	-0.002
		(0.001)	(0.002)	(0.002)	(0.003)	(0.001)
	Proportion Catholic	-0.008*	-0.010***	0.009***	0.003**	-0.007***
		(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
	Religious Pluralism	-0.001	0.007	-0.000	0.003	-0.006
		(0.002)	(0.016)	(0.008)	(0.005)	(0.006)

Constant:						
	Never Communist	0.374***	0.349***	0.424***	0.397***	0.477***
		(0.018)	(0.030)	(0.019)	(0.025)	(0.016)
	Former Communist	0.332***	0.316***	0.409***	0.354***	0.489***
		(0.015)	(0.037)	(0.024)	(0.028)	(0.020)
n						
	Individuals	9,713	5,718	9,799	9,668	9,129
	Level 1	30	30	30	30	30
	Level 2	2	2	2	2	2

WVS/EVS data, including all waves from 1981-2009

Using the Bayesian equivalents of p *values, representing the percentage of the posterior distribution falling on one side of zero:* * p<0.05, **p<0.01, *** p<0.005

Covariance terms were not significantly different from zero and were therefore excluded from the model

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